

EXHIBIT 13

The California Institute of Technology v. Broadcom Limited et al.; Case No. 2:16-cv-03714-GW-(AGRx)
Tentative Rulings on:

- (1) Plaintiff's Motion for Summary Judgment as to No Inequitable Conduct (Partial) (Docket No. 942 - public; Docket No. 957 - sealed; *see also* Docket No. 994 (notice of errata)); Opposition (Docket No. 1070 - public; Docket No. 1104 - sealed); Reply (Docket No. 1153 - public; Docket No. 1180 - sealed)
- (2) Defendants' Motion for Summary Judgment as to No Joint Infringement (Docket No. 959 - public; Docket No. 1006 - sealed); Opposition (Docket No. 1055 - public; Docket No. 1095 - sealed); Reply (Docket No. 1137 - public; Docket No. 1183 - sealed)
- (3) Plaintiff's Motion to Strike Certain Opinions of Defendants Experts Brendan Frey and Wayne Stark (Docket No. 974 - public; Docket No. 1000 - sealed); Opposition (Docket No. 1059 - public; Docket No. 1102 - sealed); Reply (Docket No. 1141 - public; Docket No. 1175 - sealed)
- (4) Defendants' Motion to Exclude Infringement Opinions of Dr. Michael Tanner (Docket No. 964 - public; Docket No. 1007 - sealed); Opposition (Docket No. 1057 - public; Docket No. 1094 - sealed); Reply (Docket No. 1133 - public; Docket No. 1182 - sealed)
- (5) Plaintiff's Motion to Strike Late-Disclosed Non-Infringing Alternative (Docket No. 971 - public; Docket No. 996 - sealed); Opposition (Docket No. 1052 - public; Docket No. 1101 - sealed); Reply (Docket No. 1144 - public; Docket No. 1176 - sealed)
- (6) Plaintiff's Motion to Exclude Improper Claim Construction Opinions of Dr. Stark and Dr. Blanksby (Docket No. 968 - public; Docket No. 998 - sealed); Opposition (Docket No. 1064 - public; Docket No. 1103 - sealed); Reply (Docket No. 1149 - public; Docket No. 1174 - sealed)
- (7) Broadcom's Motion for Summary Judgment as to Non-Infringement as to Extraterritorial Sales (Docket No. 975 - public; Docket No. 1008 - sealed); Opposition (Docket No. 1050 - public; Docket No. 1093 - sealed); Reply (Docket No. 1154 - public; Docket No. 1184 - sealed)

[Portions of the parties' briefing related to the pending motions addressed by this Tentative Ruling were filed under seal. The parties will be expected to state their positions as to whether any material should remain under seal during the hearing on the motions, including the basis for any continued request to seal.]

I. Introduction

Plaintiff The California Institute of Technology currently alleges patent infringement against Defendants Broadcom Limited, Broadcom Corporation, Avago Technologies Limited, and Apple Inc. *See* First Amended Complaint (“FAC”), Docket No. 36; *see also* Docket No. 1. Plaintiff asserts that Defendants infringe fifteen claims from three of its patents: (1) U.S. Patent No. 7,116,710 (“the ’710 Patent”); (2) U.S. Patent No. 7,421,032 (“the ’032 Patent”); and (3) U.S. Patent No. 7,916,781 (“the ’781 Patent”) (collectively, the “Asserted Patents”).¹ *See* Docket No. 409 (Plaintiff’s Amended Notice of Withdrawal of Certain Asserted Claims of Asserted Patents); *see also* Docket No. 953 (Joint Report Regarding Pending Disputed Issues).

The parties have filed this first “round” of motions for summary judgment and motions to exclude.² Those motions have been fully briefed.

For the reasons stated in this Order, the Court would rule as follows:

- Broadcom’s Motion for Summary Judgment as to Non-Infringement as to Extraterritorial Sales (Docket No. 975) would be **GRANTED-IN-PART** and **DENIED-IN-PART** as stated herein.
- Defendants’ Motion for Summary Judgment as to No Joint Infringement (Docket No. 959) would be **GRANTED**.
- The Court would **DENY-IN-PART**, **GRANT-IN-PART**, and **DEFER-IN-PART**

¹ The fifteen remaining claims in this case are: Claims 20, 22, and 23 of the ’710 Patent; Claims 3, 11, 13, 17, and 18 of the ’032 Patent; and Claims 5, 6, 9, 10, 13, 19, and 22 of the ’781 Patent. Docket No. 409. Of those claims, eleven were selected as representative claims for purposes of adjudication in this lawsuit: Claims 20, 22, and 23 of the ’710 Patent; Claims 3, 11, 17, and 18 of the ’032 Patent; and Claims 6, 9, 13, and 22 of the ’781 Patent. *See id.*; *see also* Docket No. 487, 488. On March 22, 2019, in a joint report filed by the parties, Plaintiff stated that it intended to file a “formal notice of withdrawal” on the basis that it has “withdrawn its infringement allegations with respect to claims 5, 6, 9, and 10 of the ’781 patent and claim 13 of the ’032 patent.” Docket No. 953 at 2; *see also* Docket No. 998 at 2 (Plaintiff’s memorandum in support of motion to exclude improper claim construction opinions, stating that it alleges that Defendants infringe Claims 20, 22, and 23 of the ’710 Patent, Claims 3, 11, 17, and 18 of the ’032 Patent, and Claims 9, 13 and 22 of the ’781 Patent). Plaintiff has not yet filed such a notice, which, once filed, will be understood to remove those five claims from the case entirely given that Plaintiff does not represent that any of the claims “[s]elected for adjudication” are representative of any of the withdrawn claims.

² Specifically, the following seven motions have been filed: (1) Plaintiff’s Motion for Summary Judgment as to No Inequitable Conduct (Partial) (Docket No. 942); (2) Defendants’ Motion for Summary Judgment as to No Joint Infringement (Docket No. 959); (3) Plaintiff’s Motion to Strike Certain Opinions of Defendants’ Experts Brendan Frey and Wayne Stark (Docket No. 974); (4) Defendants’ Motion to Exclude Infringement Opinions of Dr. Michael Tanner (Docket No. 964); (5) Plaintiff’s Motion to Strike Late-Disclosed Non-Infringing Alternative (Docket No. 971); (6) Plaintiff’s Motion to Exclude Improper Claim Construction Opinions of Dr. Stark and Dr. Blanksby (Docket No. 968); (7) Broadcom’s Motion for Summary Judgment as to Non-Infringement as to Extraterritorial Sales (Docket No. 975).

Plaintiff's Motion to Exclude Improper Claim Construction Opinions of Dr. Stark and Dr. Blanksby (Docket No. 968) as stated herein.

- As stated herein, Plaintiff's Motion to Strike Certain Opinions of Defendants' Experts Brendan Frey and Wayne Stark (Docket No. 974) would be **GRANTED-IN-PART** and **DEFERRED-IN-PART** pending discussion at the hearing.
- Plaintiff's Motion to Strike Late-Disclosed Non-Infringing Alternative (Docket No. 971) would be **DENIED**.
- The Court would **GRANT-IN-PART** and **DENY-IN-PART** Defendants' Motion to Exclude Infringement Opinions of Dr. Michael Tanner (Docket No. 964) as stated herein.
- Plaintiff's Motion for Summary Judgment as to No Inequitable Conduct (Partial) (Docket No. 942) would be **GRANTED**.

II. Legal Standard

A. Summary Judgment

Under Federal Rule of Civil Procedure ("Rule") 56, a party may move for summary judgment, identifying each claim or defense – or the part of each claim or defense – on which summary judgment is sought, and the court shall grant it when the pleadings, the discovery and disclosure materials on file, and any affidavits show that "there is no genuine issue as to any material fact and that the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a); *see also Miranda v. City of Cornelius*, 429 F.3d 858, 860 n.1 (9th Cir. 2005). As to materiality, "[o]nly disputes over facts that might affect the outcome of the suit under the governing law will properly preclude the entry of summary judgment." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). A dispute as to a material fact is "genuine" if there is sufficient evidence for a reasonable jury to return a verdict for the nonmoving party. *Id.*

To satisfy its burden at summary judgment, a moving party with the burden of persuasion must establish "beyond controversy every essential element of its [claim or defense]." *S. Cal. Gas Co. v. City of Santa Ana*, 336 F.3d 885, 888 (9th Cir. 2003); O'Connell & Stevenson, *Rutter Group Prac. Guide: Fed. Civ. Proc. Before Trial* ("Federal Practice Guide") § 14:126 (2016). By contrast, a moving party without the burden of persuasion "must either produce evidence negating an essential element of the nonmoving party's claim or defense or show that the nonmoving party does not have enough evidence of an essential element to carry its ultimate burden of persuasion

at trial.” *Nissan Fire & Marine Ins. Co., Ltd. v. Fritz Cos., Inc.*, 210 F.3d 1099, 1102 (9th Cir. 2000); *see also Devereaux v. Abbey*, 263 F.3d 1070, 1076 (9th Cir. 2001) (en banc) (“When the nonmoving party has the burden of proof at trial, the moving party need only point out ‘that there is an absence of evidence to support the nonmoving party’s case.’”) (quoting *Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986), and citing *Fairbank v. Wunderman Cato Johnson*, 212 F.3d 528, 532 (9th Cir. 2000) (holding that the *Celotex* “showing” can be made by “pointing out through argument . . . the absence of evidence to support plaintiff’s claim”)).

If the party moving for summary judgment meets its initial burden of identifying for the court the portions of the materials on file that it believes demonstrate the absence of any genuine issue of material fact, the nonmoving party may not rely on the mere allegations in the pleadings in order to preclude summary judgment[, but instead] must set forth, by affidavit or as otherwise provided in Rule 56, specific facts showing that there is a genuine issue for trial.

T.W. Elec. Serv., Inc. v. Pac. Elec. Contractors Ass’n, 809 F.2d 626, 630 (9th Cir. 1987) (internal citations and quotation marks omitted) (citing, among other cases, *Celotex*, 477 U.S. at 323). “A non-movant’s bald assertions or a mere scintilla of evidence in his favor are both insufficient to withstand summary judgment.” *See FTC v. Stefanchik*, 559 F.3d 924, 929 (9th Cir. 2009). In addition, the evidence presented by the parties must be admissible. *See Fed. R. Civ. P. 56(e)*. Conclusory, speculative testimony in affidavits and moving papers is insufficient to raise genuine issues of fact and defeat summary judgment. *See Thornhill Publ’g Co., Inc. v. GTE Corp.*, 594 F.2d 730, 738 (9th Cir. 1979). Relatedly, “[a]ny objections to declarations or other evidence must be made at or (preferably) before the hearing, and should be ruled upon by the court before ruling on the motion itself.” *Federal Practice Guide* § 14:333 (citing *Hollingsworth Solderless Terminal Co. v. Turley*, 622 F.2d 1324, 1335 n.9 (9th Cir. 1980); *Sigler v. American Honda Motor Co.*, 532 F.3d 469, 480 (6th Cir. 2008)). In judging evidence at the summary judgment stage, however, courts do not make credibility determinations or weigh conflicting evidence at the summary judgment stage, and must view all evidence and draw all inferences in the light most favorable to the non-moving party. *See T.W. Elec.*, 809 F.2d at 630-31 (citing *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574 (1986)); *Anderson*, 477 U.S. at 255 (“The evidence of the non-movant is to be believed and all justifiable inferences are to be drawn in [the non-movant’s] favor.”).

“If the court does not grant all the relief requested by the motion, it may enter an order

stating any material fact – including an item of damages or other relief – that is not genuinely in dispute and treating the fact as established in the case.” Fed. R. Civ. P. 56(g); *see also* Federal Practice Guide § 14:352 (“A partial summary judgment may be granted on motion of either party for adjudication of particular claims or defenses.”) (citing *id.* § 14:33).

B. Motions to Exclude/Strike

1. Rule 37(c) and Timely Disclosure of Information

Under Rule 37(c)(1), “[i]f a party fails to provide information or identify a witness as required by Rule 26(a) or (e), the party is not allowed to use that information or witness to supply evidence on a motion, at a hearing, or at a trial, unless the failure was substantially justified or is harmless.” Fed. R. Civ. P. 37(c)(1). The burden is on the party facing the sanction to show that the failure to disclose is substantially justified or harmless. *Yeti by Molly, Ltd. v. Deckers Outdoor Corp.*, 259 F.3d 1101, 1107 (9th Cir. 2001). “Among the factors that *may* properly guide a district court in determining whether a violation of a discovery deadline is justified or harmless are: (1) prejudice or surprise to the party against whom the evidence is offered; (2) the ability of that party to cure the prejudice; (3) the likelihood of disruption of the trial; and (4) bad faith or willfulness involved in not timely disclosing the evidence.” *Lanard Toys Ltd. v. Novelty, Inc.*, 375 Fed. App’x. 705, 713 (9th Cir. 2010) (citing *David v. Caterpillar, Inc.*, 324 F.3d 851, 857 (7th Cir. 2003)) (emphasis added).

Generally, “the district court’s discretion to issue sanctions under Rule 37(c)(1)” is given “particularly wide latitude.” *Yeti by Molly*, 259 F.3d at 1107. However, discretion may be limited when the sanction amounts to dismissal of a claim. *R & R Sails, Inc. v. Ins. Co. of Pa.*, 673 F.3d 1240, 1247 (9th Cir. 2012). In such a case, the district court is “required to consider whether the claimed noncompliance involved willfulness, fault, or bad faith, and also to consider the availability of lesser sanctions.” *Id.*

2. Experts and Daubert

Daubert’s “gatekeeping obligation” requires “that all admitted expert testimony is both relevant and reliable.” *Wendell v. GlaxoSmithKline LLC*, 858 F.3d 1227, 1232 (9th Cir. 2017). In addition, expert testimony must “relate to scientific, technical, or other specialized knowledge, which does not include unsupported speculation and subjective beliefs.” *Guidroz-Brault v. Missouri Pac. R.R. Co.*, 254 F.3d 825, 829 (9th Cir. 2001). “The test for reliability, however, is not the correctness of the expert’s conclusions but the soundness of his methodology.” *Stilwell v.*

Smith & Nephew, Inc., 482 F.3d 1187, 1192 (9th Cir. 2007).

That being said, “far from requiring trial judges to mechanically apply the *Daubert* factors - or something like them - to both scientific and non-scientific testimony, *Kumho Tire* heavily emphasizes that judges are entitled to broad discretion when discharging their gatekeeping function.” *Hangarter v. Provident Life & Accident Ins. Co.*, 373 F.3d 998, 1017 (9th Cir. 2004). Exclusion of expert testimony is proper only when such testimony is irrelevant or unreliable because “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.” *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 596 (1993) (citing *Rock v. Arkansas*, 483 U.S. 44, 61 (1987)).

III. Analysis

A. Summary Judgment Motion Regarding Extraterritorial Sales

Defendant Broadcom moves for a summary judgment determination that acts relating to a certain subset of the accused products in this case cannot constitute acts of infringement in the United States as a matter of law.³ Docket No. 975. Specifically, Broadcom argues that “almost [REDACTED] of the accused Broadcom chips – the vast majority of the accused Broadcom chips in this case – were made, sold, and delivered outside the United States pursuant to contracts formed outside the United States.” Docket No. 1008-1 at 1.

Section 271(a) of the Patent Act states, “whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.” 35 U.S.C. § 271(a).

The core disputes between the parties relate to: (1) what constitutes a “sale” or “offer for sale” under 35 U.S.C. § 271(a), and (2) whether, in this case, there are facts to support the conclusion that sales or offers for sale occurred within the United States.

1. Offer for Sale

Regarding an “offer for sale,” the Federal Circuit has stated:

“the location of the contemplated sale controls whether there is an offer to sell *within the United States*.” [*Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*, 617 F.3d 1296, 1309 (Fed. Cir. 2010)]

³ See Broadcom’s Motion for Summary Judgment as to Non-Infringement as to Extraterritorial Sales, Docket No. 975 (public), Docket No. 1008 (sealed); Plaintiff’s Opposition, Docket No. 1050 (public), Docket No. 1093 (sealed); Broadcom’s Reply, Docket No. 1154 (public), Docket No. 1184 (sealed).

(emphasis added). “In order for an offer to sell to constitute infringement, the offer must be to sell a patented invention within the United States.” *Id.* In *Transocean*, contract negotiations occurred outside the United States for delivery and performance in the United States. This court held that the location of the contemplated sale controlled and that the offer to sell infringed the patent at issue.

The case now before us involves the opposite situation, where the negotiations occurred in the United States, but the contemplated sale occurred outside the United States. We adopt the reasoning of *Transocean* and conclude here that Pulse did not directly infringe the Halo patents under the “offer to sell” provision by offering to sell in the United States the products at issue, because the locations of the contemplated sales were outside the United States. Cisco outsourced all of its manufacturing activities to foreign countries, and it is undisputed that the locations of the contemplated sales were outside the United States. Likewise, with respect to other Pulse customers, there is no evidence that the products at issue were contemplated to be sold within the United States.

An offer to sell, in order to be an infringement, must be an offer contemplating sale in the United States. Otherwise, the presumption against extraterritoriality would be breached. If a sale outside the United States is not an infringement of a U.S. patent, an offer to sell, even if made in the United States, when the sale would occur outside the United States, similarly would not be an infringement of a U.S. patent. We therefore hold that Pulse did not offer to sell the products at issue within the United States for purposes of § 271(a).

Halo Elecs., Inc. v. Pulse Elecs., Inc., 831 F.3d 1369, 1380 (Fed. Cir. 2016).⁴

Plaintiff states that *Halo*’s holding relating to offers for sale should be rejected as abrogated by the Supreme Court’s determination in a recent case, *WesternGeco LLC v. ION Geophysical Corp.*, 138 S. Ct. 2129 (2018). In *WesternGeco*, the Court considered whether Section 284 of the Patent Act permitted a patent owner to recover lost foreign profits for infringement pursuant to

⁴ The Federal Circuit originally reached the same determination, relying on the same analysis, in *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 769 F.3d 1371, 1377 (Fed. Cir. 2014). The Supreme Court subsequently vacated and remanded with respect to the proper test for evaluating enhanced damages under 35 U.S.C. § 284. *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923 (2016). On remand, the Federal Circuit reinstated the portion of its opinion that was not addressed by the Supreme Court, which included this excerpt. *Halo*, 831 F.3d at 1373 (“Because the Supreme Court’s review was limited to the issue of enhanced damages and left undisturbed the judgments on other issues, we reaffirm the summary judgment of no direct infringement of the Halo patents by the accused products that Pulse manufactured, shipped, and delivered outside the United States, and we also reaffirm all aspects of the cross-appeal. On those issues, we restate herein the reasoning stated in our earlier opinion.”). This Order refers to the remanded opinion, *Halo*, 831 F.3d 1369, unless otherwise noted.

Section 271(f)(2). *See* 35 U.S.C. § 271(f)(2).⁵ The Court found that “Section 271(f)(2) focuses on domestic conduct The conduct that § 271(f)(2) regulates - *i.e.*, its focus - is the domestic act of ‘suppl[y]ing in or from the United States.’” *WesternGeco*, 138 S. Ct. at 2137-38. The Court went on to state:

[Defendant] ION is mistaken to assert that this case involves an extraterritorial application of § 284 simply because “lost-profits damages occurred extraterritorially, and foreign conduct subsequent to [ION’s] infringement was necessary to give rise to the injury.” Those overseas events were merely incidental to the infringement. In other words, they do not have “primacy” for purposes of the extraterritoriality analysis. [*Morrison v. Nat’l Australia Bank Ltd.*, 561 U.S. 247, 267 (2010)].

Id. at 2138 (citation omitted).

Plaintiff’s argument regarding *WesternGeco*’s impact on the Federal Circuit’s ruling relating to offers for sale in *Halo* is unpersuasive. *WesternGeco* was limited to considering whether the case involved a domestic application of the provisions in Sections 284 and 271(f)(2) of the Patent Act. *WesternGeco* did not consider the focus of Section 271(a). It is not this Court’s place to say that *WesternGeco* abrogated *Halo*’s holding under these circumstances. This is particularly true when, since the time *WesternGeco* was issued, the Federal Circuit has referred to and appeared to cite with approval the determinations in *Halo*. *See Texas Advanced Optoelectronic Sols., Inc. v. Renesas Elecs. Am., Inc.*, 895 F.3d 1304, 1330 (Fed. Cir. 2018) (“*TAOS*”) *petition for cert. docketed*, No. 18-600 (Nov. 7, 2018) (describing facts presented in *Halo* and stating, “[u]nder those undisputed facts, this court affirmed the district court’s conclusion on summary judgment that there was no sale or offer to sell in the United States.”).⁶

⁵ Section 271(f)(2) states,

Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. § 271(f)(2).

⁶ In a footnote of its opposition, Plaintiff states:

Summary judgment is all the more inappropriate at this time because the Supreme Court is considering whether to grant certiorari in *TAOS* on whether, under 35 U.S.C. § 271(a), “an ‘offer[] to sell’ occurs where the offer is actually made or where the offer contemplates that

It is undisputed that the accused products that are the subject of Broadcom's motion are manufactured outside of the United States and shipped to other entities outside of the United States.⁷ *See* Defendants' Statement of Undisputed Facts Regarding Summary Judgment as to Non-Infringement as to Extraterritorial Sales, Docket No. 1184-1 § I, ¶¶ 1-10. Under controlling Federal Circuit authority, Plaintiff cannot show that these chips are offered for sale within the United States.

2. Sale

Federal Circuit authority is not so clear-cut insofar as what constitutes a sale in the United States under Section 271(a). The issue was also addressed in *Halo*, where the Federal Circuit found that "the district court did not err in granting summary judgment of no direct infringement with respect to those products that Pulse manufactured, shipped, and delivered outside the United States" because the products were not sold (or offered for sale) in the United States. *Halo*, 831 F.3d at 1376. The Federal Circuit found that:

[a]lthough Pulse and Cisco had a general business agreement, that agreement did not refer to, and was not a contract to sell, any specific product. While Pulse and Cisco engaged in quarterly pricing negotiations for specific products, the negotiated price and projected demand did not constitute a firm agreement to buy and sell, binding on both Cisco and Pulse. Instead, Pulse received purchase orders from Cisco's foreign contract manufacturers, which then firmly established the essential terms including price and quantity of

the proposed sale will take place." Supreme Court Docket 18-600, Petition for a writ of certiorari, "Question Presented" (Nov. 5, 2018). The Supreme Court recently invited the Solicitor General to weigh in with the views of the US. Docket 18-600 (Jan. 7, 2019).

Docket No. 1093 at 22-23 n.9. Unless and until the petition for a writ of certiorari is granted in *TAOS*, this Court declines to consider waiting to make its determinations based on currently-applicable Federal Circuit precedent. The Court expects that the parties will keep it apprised of developments with the *TAOS* petition.

⁷ Some underlying "undisputed" facts referenced in this Order, including this one, are technically disputed by Plaintiff or Defendants. The Court has reviewed said disputes and identifies a fact as "undisputed" when supported by the cited evidence, altering the proffered facts if necessary to accurately reflect the uncontroverted evidence. To the extent that the cited underlying "undisputed" facts have been disputed, the Court finds that the stated disputes: (1) fail to controvert the proffered "undisputed" facts, (2) dispute the facts on grounds not germane to the below statements, and/or (3) fail to cite evidence in support of the disputing party's position. As such, the Court treats such facts as undisputed. Any proffered facts not included in this tentative ruling were found to be: (1) improper opinions or conclusions rather than facts, (2) were unsupported by admissible evidence, (3) were deemed irrelevant to the Court's present analysis, or (4) some combination thereof. To the extent the Court uses any facts in this tentative ruling, and does not note that they are disputed, it has determined that they are undisputed.

Although certain documents are listed on the electronic docket as "Objection/Opposition" to particular pending motions (*see, e.g.*, Docket No. 1104), based on the Court's review of such entries, it does not appear that either party has submitted evidentiary objections to the other side's proffered evidence.

binding contracts to buy and sell. Moreover, Pulse was paid abroad by those contract manufacturers, not by Cisco, upon fulfillment of the purchase orders. Thus, substantial activities of the sales transactions at issue, in addition to manufacturing and delivery, occurred outside the United States. Although Halo did present evidence that pricing negotiations and certain contracting and marketing activities took place in the United States, which purportedly resulted in the purchase orders and sales overseas, as indicated, such pricing and contracting negotiations alone are insufficient to constitute a “sale” within the United States.

Halo, 831 F.3d at 1378.

In comparison, in another decision, the Federal Circuit vacated a portion a jury’s damages award, finding that although the defendant had not met its burden of showing that judgment as a matter of law was warranted as to certain of its accused semiconductor microchips, a new trial was necessary on the issue of whether the chips that were not made or used in, or imported into, the United States could be considered “sold” in the United States under the particular facts of the case. *Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 807 F.3d 1283, 1311 (Fed. Cir. 2015) (“*CMU*”). The Federal Circuit stated:

[t]he standards for determining where a sale may be said to occur do not pinpoint a single, universally applicable fact that determines the answer, and it is not even settled whether a sale can have more than one location. *See Halo*, 769 F.3d at 1378-79 (collecting cases; relying in part on *N. Am. Philips Corp. v. Am. Vending Sales, Inc.*, 35 F.3d 1576, 1579 (Fed. Cir. 1994)). Places of seeming relevance include a place of inking the legal commitment to buy and sell and a place of delivery, *see id.*; *Transocean*, 617 F.3d at 1311; *cf. Norfolk & W. Ry. Co. v. Sims*, 191 U.S. 441, 447, 24 S.Ct. 151, 48 L.Ed. 254 (1903), and perhaps also a place where other “substantial activities of the sales transactions” occurred, *Halo*, 769 F.3d at 1379 & n. 1 (focusing on where “substantial activities of the sales transactions” occurred, but declining to decide whether the location of contract formation on the facts of that case would have established a sales location). At this point, we do not settle on a legal definition or even to say whether any sale has a unique location. The governing legal standards have not been the subject of meaningful briefing here. Identifying those standards, along with relevant factual development, is better undertaken in the remand we order, in part because further factual development may narrow the legal issues actually requiring decision. At present, we do not have a full understanding of, among other things, what a “design win” meant legally and practically, how such a “design win” in the United States in this case compares with the activities that occurred in the United States in *Halo* (which were insufficient), and where specific chip orders were negotiated and made final. Until fuller exploration of factual and legal issues occurs on remand, it is premature to rule on whether sales

occurred in the United States for the chips at issue.

* * *

Chip designers like [Defendant] Marvell sell customized chips with designs specifically tailored for incorporating into customers' products. J.A. 42,123-24 (Marvell VP of sales: "[E]very chip that Marvell designs for a customer is specifically aimed for that particular customer. It's not, cannot be sold to the, you know, in the general market."). Because of the customized nature of the chips, designers and potential customers put themselves through a lengthy "sales cycle," involving extensive joint work over several years, before any sale is made and chips enter mass production. Only at the end of that sales cycle, if the chip designer is successful, does it secure a "design win," but that win generally results in a customer's exclusive use of that designer's customized chip for a certain period, amounting to tens or hundreds of millions of chips over several years. J.A. 43,654-55 (parties' joint stipulation on the sales cycle); *see* J.A. 44,426 (executive at Western Digital testifying that when he "recommend[ed] that Marvell be selected as the read chip channel supplier," Marvell would become "the exclusive read chip channel supplier"). One executive from a now-defunct chip maker called the industry a "winner takes all business." J.A. 42,121.

Marvell's facilities are in northern California, and CMU's industry expert, Dr. Bajorek, showed that "with the exception of the chip making . . . all the activities related to designing, simulating, testing, evaluating, qualifying the chips by Marvell as well as by its customers occur[] in the United States." J.A. 42,159; *see also* J.A. 35,075-77 (charts showing relevant activity and where it occurred); J.A. 43,650-55 (parties' joint stipulation). He also used Marvell's records to show that Marvell, from California, provided potential customers with samples and simulations incorporating its designs. *E.g.*, J.A. 42,147-48; J.A. 53,570, 53,572, 53,612, 53,613. Marvell itself stipulated that "[d]uring [its] sales cycle, [its] engineers assist [its] customers in implementing [its] solutions into their product." J.A. 43,654. And there was some evidence suggesting that specific contractual commitments for specific volumes of chips were made in the United States Marvell points us to no evidence to the contrary.

Id. at 1308-09.

The parties' primary dispute is whether *Halo* or *CMU* should govern the outcome of Broadcom's motion on the facts presented. Broadcom argues that the facts in this case are similar to those presented in *Halo* and summary judgment is appropriate. Plaintiff argues that the reasoning of *Halo*, and particularly its emphasis on the presumption against extraterritoriality, *see Halo*, 831 F.3d at 1378, is undercut by the Supreme Court's analysis in *WesternGeco*. Plaintiff argues that *CMU* should control for that reason as well as based on an argument that the facts in

this case are similar to those at issue in *CMU* compared to *Halo*.

The Court has already rejected Plaintiff's position that *WesternGeco* abrogates or otherwise undercuts the Federal Circuit's reasoning in *Halo* related to Section 271(a). *See also TAOS*, 895 F.3d at 1330. *TAOS* is also instructive in its analysis of *Halo* and *CMU*. In *TAOS*, in drawing a distinction between *Halo* and *CMU*, the Federal Circuit observed that in *CMU*, "there was some evidence suggesting that specific contractual commitments for specific volumes of chips [(i.e., the accused products)] were made in the United States." *TAOS*, 895 F.3d at 1330 (citing *CMU*, 807 F.3d at 1309). *TAOS* also noted that in the circumstances presented in *CMU*, the defendant "had the opportunity to present evidence at trial that the sales took place only abroad and simply failed to do so," such that the Federal Circuit panel "repeatedly stressed" that judgment as a matter of law in favor of the defendant was not warranted.⁸ *Id.*

Importantly, as *CMU* noted, "[t]he standards for determining where a sale may be said to occur do not pinpoint a single, universally applicable fact that determines the answer, and it is not even settled whether a sale can have more than one location." *CMU*, 807 F.3d at 1308; *see also Asia Vital Components Co. v. Asetek Danmark A/S*, Case No. 16-cv-07160-JST, 2019 WL 1369908, *21 (N.D. Cal. Mar. 26, 2019). In other words, the inquiry is extremely fact-intensive and fact-specific. Plaintiff attempts to distinguish the circumstances of this case from *Halo* by mustering evidence of various activities that allegedly occur on United States soil relating to the Apple-Broadcom relationship and the selling and buying of Broadcom's accused chips. A review of most of the facts discussed by the parties supports the conclusion that they sync up with the facts at issue in *Halo*. [REDACTED]

[REDACTED]

[REDACTED]⁹ A few areas where the parties focus

⁸ A new trial was permitted in *CMU* on the basis that the jury instructions were missing "an instruction that required the jury to find a domestic location of sale as to those chips not made or used in, or imported into, the United States." *CMU*, 807 F.3d at 1310. The Federal Circuit in *CMU* found that the defendant "did not properly object to the omission of an instruction focusing on the place of sale for those chips which were not made or used in, or imported into, the United States," but that in exercising a discretionary right of plain error review, the "fundamental importance of the extraterritoriality principle" and other considerations were "enough for a 'miscarriage of justice' under a rule whose function is to produce only a new trial, not a judgment as a matter of law for the objecting party." *Id.* at 1310-11.

⁹ The Magistrate Judge similarly found that these documents and activities related to them matched with some of the unsuccessful evidence raised by the plaintiff in *Halo*. *See* Docket No. 273 at 5. The Magistrate Judge ultimately concluded that on the record before her, Defendants had failed to show that sales of Broadcom chips

their dispute, including the facts surrounding purchase orders and “design wins,” deserve further discussion.

One of the areas of factual and legal dispute between the parties relates to purchase orders. Plaintiff argues that purchase orders are [REDACTED]

[REDACTED] See, e.g., Plaintiff’s Statement of Additional Material Facts, Docket No. 1184-1 § II, ¶¶ 58, 61, 67; see also *id.* at § II, ¶¶ 59, 60. Most of Plaintiff’s cited evidence does not support the claim [REDACTED]

[REDACTED] See, e.g., Docket No. 1093-112. However, [REDACTED]

[REDACTED] Docket No. 1093-118. This lone purchase order, if tied to the accused products in this case, would appear to support the conclusion [REDACTED]

[REDACTED] *CMU*, 807 F.3d at 1308-09. However, more information is necessary regarding the particular purchase order and accused products to confirm this.

Plaintiff also submits evidence that supports the argument that Apple [REDACTED] [REDACTED] Docket No. 1184-1 § II, ¶¶ 58, 60, 61 (citing, e.g. Docket Nos. 1093-50; 1093-54; 1093-76). For this second point, Broadcom argues that similar facts were considered and rejected in *Halo*. *Id.* ¶ 61 (“*Halo* argued in its opening appellate brief that ‘[o]nce the quarterly contracting process is complete, Cisco communicates the final price and allocation it sets with Pulse (and the other suppliers) to Cisco’s contract manufacturers . . .’”). Contrary to Broadcom’s position, Plaintiff’s cited evidence [REDACTED]

[REDACTED] such that it is the entity that is “firmly establish[ing] the essential terms including price and quantity of binding contracts to buy and sell.” *Halo*, 831 F.3d at 1378.

Plaintiff argues that some purchase orders may [REDACTED] and [REDACTED] [REDACTED] with [REDACTED] [REDACTED] Docket No.

occurred in the United States “to render discovery of the remaining worldwide revenue numbers proportional to the needs of the case.” *Id.* at 3.

1093 at 6; Docket No. 1184-1 § II, ¶¶ 43-46; *see also* Docket No. 1093-140 (Exhibit with title

Although Broadcom refers to this [REDACTED] in the introduction section of its reply brief, it does not mention it again when later discussing purchase order activities. *See* Docket No. 1184 at 2. In responding to Plaintiff’s additional material facts, Broadcom does not dispute that [REDACTED] nor that [REDACTED] but instead argues that it is both immaterial and comparable to activities that were deemed insufficient in *Halo*. *See, e.g.*, Docket No. 1184-1 § II, ¶ 43 at 256 (quoting excerpt of the plaintiff’s appellate brief in *Halo* and arguing, “[t]he Federal Circuit rejected a similar argument in *Halo*, where it had been shown that Pulse and Cisco agreed on a final price, negotiated in the U.S., and that **“Cisco then reimburse[d] the contract manufacture for the price that had been agreed upon with Pulse.”** (emphasis in original)). The Court is not persuaded that comparable activities, at least at the level of evidentiary detail presented here, are described in *Halo*, *CMU*, or other Federal Circuit cases. Apple’s practice [REDACTED]

[REDACTED]¹⁰

Aside from the contours of purchase order practice,¹¹ the parties spend substantial time disputing whether Broadcom’s [REDACTED] makes this matter more comparable to *CMU* than *Halo*. Particularly when considered alongside the other evidence presented, including some of the evidence related [REDACTED] the Court finds that Broadcom’s [REDACTED] further supports the conclusion that questions of fact preclude summary judgment as a matter of law at this time. Broadcom argues that the design win process in *CMU* is distinguishable

¹⁰ The Magistrate Judge found that this practice was “merely a variation of the agreed upon price that was found insufficient in *Halo*.” Docket No. 273 at 5.

¹¹ Plaintiff also [REDACTED] *See* Docket No. 1093 at 7; Docket No. 1184-1 § II, ¶¶ 73-76. Broadcom challenges the underlying evidence used to support Plaintiff’s assertion about the location [REDACTED] Docket No. 1184 at 8. Indeed, Plaintiff’s cited testimony includes the statement that Broadcom’s customer service team [REDACTED] *See, e.g.* Docket No. 1093-10 at 191:11-23; *see also* Docket No. 1184-4 (Purchase Order addressed to Broadcom in Dublin, Ireland). The same testimony states that [REDACTED] *See id.* at 191:24-194:21; 196:11-13. Plaintiff’s argument on this issue is not particularly persuasive on its own, but perhaps could be considered alongside the other evidence presented.

from Broadcom's [REDACTED] and that *Halo* effectively considered circumstances involving a sales cycle just as extensive and intimate as the sales cycles Broadcom employs. At least at this stage, more factual information is necessary to support Broadcom's arguments distinguishing *CMU* on these grounds. In particular, more information about the nature of Broadcom's market and, for instance, [REDACTED], is required. *See, e.g.*, Docket No. 1184-1 § II, ¶¶ 112, 113, 131.

3. Induced Infringement

The parties spend minimal briefing on the issue of induced infringement. Induced infringement requires a showing that direct infringement has occurred. *Limelight Networks, Inc. v. Akamai Techs., Inc.*, 572 U.S. 915, 923 (2014). Here, for chips that are never imported into the United States, "whether inside an Apple product or otherwise," (*see* Docket No. 1184 at 12), the only dispute raised by the parties is whether **Broadcom** directly infringes through sales or offers for sale of those chips in the United States. Plaintiff has not presented evidence or argument to support the conclusion that for the non-imported chips, Broadcom induces a third party to perform acts of infringement. Summary judgment of no induced infringement as to that particular collection of chips is appropriate.

However, for chips that are inside Apple products and are eventually imported into the United States, there is insufficient basis to warrant summary judgment. In its opening brief, Broadcom argues that it does not possess the requisite "specific intent to induce infringement" because it [REDACTED]

[REDACTED] Docket No. 1184 at 19-20. However, "requisite intent to induce infringement may be inferred from all of the circumstances." *Warsaw Orthopedic, Inc. v. NuVasive, Inc.*, 824 F.3d 1344, 1347 (Fed. Cir. 2016) (quoting *Broadcom Corp. v. Qualcomm Inc.*, 543 F.3d 683, 699 (Fed. Cir. 2008)). Indeed, the Federal Circuit has also found that "willful blindness can satisfy the knowledge requirement for active inducement under § 271(b) (and for contributory infringement under § 271(c)), even in the absence of actual knowledge." *Id.*

Plaintiff argues that [REDACTED]

[REDACTED] Docket No. 1093 at 24; *see also* Docket No. 1184-1 § II, ¶¶ 85-87 (*see also* Broadcom's response to ¶ 87, asserting that [REDACTED])

On the current record, factual questions relating to the exclusive nature of the supply chain and Broadcom's intent preclude summary judgment as to chips that are eventually imported into the United States. *See Largan Precision Co. v. Genius Elec. Optical Co.*, 646 F. App'x 946, 949 n.2 (Fed. Cir. 2016).

4. Conclusion

Broadcom's Motion for Summary Judgment as to Non-Infringement as to Extraterritorial Sales (Docket Nos. 975, 979) would be **GRANTED-IN-PART** and **DENIED-IN-PART**. Plaintiff cannot show as a matter of law that Broadcom infringes the asserted patents via its accused chips that are never imported into the United States on the basis of *offering to sell* them pursuant to 35 U.S.C. § 271(a) when Broadcom and its customers merely take actions similar to those engaged in by the defendant in *Halo*, and Broadcom's motion would thus be **GRANTED** on that basis. However, questions of fact remain as to whether Broadcom's chips that are never imported into the United States are sold pursuant to 35 U.S.C. § 271(a) (similar to the situation in *CMU*, and Broadcom's motion would thus be **DENIED** on that basis. Plaintiff has failed to present evidence that Broadcom induces others to infringe the asserted patents via its accused chips that are not imported into the United States, and Broadcom's motion would thus be **GRANTED** on that basis. To the extent Broadcom's Motion relates to accused chips that are eventually imported into the United States, fact questions are present regarding whether Broadcom induces infringement of the asserted patents through those chips, and the Motion would be **DENIED** on that basis.

B. Summary Judgment Motion Regarding Joint Infringement

Defendants move for a summary judgment determination that they have not jointly infringed the asserted patents on the basis that Plaintiff has "offered no evidence, opinions, or contentions" to support such a theory.¹² Docket No. 959 at 1.

Plaintiff argues that it timely disclosed a joint infringement theory because its infringement contentions alleged that "*Defendants directly infringe* the Asserted Claims by *making* [and/or] *using* . . . the Accused Products" and "*Defendants* further directly infringe each method claim of

¹² See Defendants' Motion for Summary Judgment as to No Joint Infringement, Docket No. 959 (public), Docket No. 1006 (sealed); Opposition, Docket No. 1055 (public), Docket No. 1095 (sealed); Reply, Docket No. 1137 (public), Docket No. 1183 (sealed).

the Asserted Claims because ***Defendants*** have performed each and every step of the Asserted Claims at least through ***testing*** and/or ***use*** by their employees, among other ways.” Docket No. 1095 at 6 (quoting Docket No. 961-2 at 10) (emphasis in original). Plaintiff also identifies a sentence in its contentions where it stated Apple infringes “by requiring the LDPC coding functionality in the Broadcom Accused Products to be enabled.” *Id.* (quoting Docket No. 961-2 at 11). Plaintiff argues that similar references to “***Defendants***” plural in some of its expert reports supports the conclusion that it timely disclosed a joint infringement theory. *Id.* at 7. Plaintiff also for the first time in this litigation suggests that it did not have an obligation to disclose all of its litigation theories in a timely fashion because “neither the scheduling order in this case nor any local rule required Caltech to present further details in its infringement contentions.” *Id.* at 6-7.

Plaintiff’s arguments are not persuasive. The parties have gone through multiple rounds of disputes in this case regarding the sufficiency of Plaintiff’s infringement contentions. *See* Docket No. 673 at 2 (September 10, 2018 Order regarding motions, stating, “[t]he parties have been raising disputes about the adequacy of Plaintiff’s infringement contentions for about a year now.”). Arguing that using the word “Defendants” plural in infringement contentions supports a basis for understanding a joint infringement theory is both troubling and insufficient to put Defendants on notice of a specific joint infringement theory. As Defendants note, Plaintiff also takes other statements in its infringement contentions out of context. Docket No. 961-2 at 2 (“Apple incorporates Broadcom Accused Products into Apple Accused Products in an infringing manner by requiring the LDPC coding functionality in the Broadcom Accused Products to be enabled.” (emphasis added)). Because Plaintiff failed to timely disclose any cognizable theory of joint infringement liability to support its affirmative case against Defendants, summary judgment is warranted. Defendants’ Motion for Summary Judgment as to No Joint Infringement (Docket No. 959) would be **GRANTED**.

C. Motion to Exclude Improper Claim Construction Opinions

Plaintiff moves to exclude certain opinions of Dr. Wayne Stark and Dr. Andrew Blanksby on the basis that they rely on improper claim construction interpretations.¹³ Docket No. 968. Before turning to the nine separate disputes that Plaintiff raises in its motion, the Court notes that

¹³ *See* Plaintiff’s Motion to Exclude Improper Claim Construction Opinions of Dr. Stark and Dr. Blanksby, Docket No. 968 (public), Docket No. 998 (sealed); Opposition, Docket No. 1064 (public), Docket No. 1103 (sealed); Reply, Docket No. 1149 (public), Docket No. 1174 (sealed).

the brief snippets of technologically-complex argument that are directed to each of these disputes appear likely interrelated with much larger, possibly dispositive issues in this case. The Court provides some tentative determinations on the limited record before it, but expects additional information from the parties at the hearing regarding how (hypothetically) granting or denying Plaintiff's motion as to some or all of these disputes would impact dispositive issues in this case, including infringement and invalidity. The Court may reserve a final determination on some or all of the disputes raised herein until after the parties have fully briefed their "second round" of dispositive motions.

1. "Repeat" (all asserted claims)

During claim construction, Defendants argued that the term "repeat" should be construed as "[c]reating a new bit that corresponds to the value of an original bit (*i.e.*, a new copy) by storing the new copied bit in memory. A reuse of a bit is not a repeat of a bit." *See* Docket No. 213 at 8. The Court found that the claim language itself "makes clear that 'repeated bits' are a construct distinct from the original bits from which they are created, as Defendants contend repeatedly." *Id.* at 9; *see also id.* at Cover, 14. The Court went on to state, "nowhere in the claims is the term 'repeat' defined or used in a manner that specifies how the repeated bits are stored in their transitional state," and rejected Defendants' proposal that the term "repeat" be construed to require "storing the new copied bit in memory." *Id.* The Court referred to certain examples, including the low-density generator matrix ("LDGM") in the specification, before explaining, "storage of redundant copies of bits in new memory locations is not a predicate to duplication or reuse of bits to create IRA codes or parity bits, especially not when the repeated bits are merely transitory to generation of parity bits."¹⁴ *Id.*

Plaintiff argues that Defendants' experts improperly submit opinions that would limit the

¹⁴ The claim construction order later stated:

Defendants also assert that Plaintiff's attempt to re-write the claim to cover mere 'reuse' of bits would render limitations of the asserted claims superfluous. *See* Defs.' Motion at 14; Defs.' Opposition at 4. But Plaintiff is not asking this Court to construe the claims so. Rather, Plaintiff only proposes that the Court adopts the plain and ordinary meaning of the term.

Docket No. 213 at 10. However, in adopting the claim construction ruling as the final ruling of the Court, the cover page included the statement that "while 'repeat' may encompass duplication *and reuse*, it surely is not limited to . . . specific implementation techniques." *Id.* at Cover (emphasis added); *see also id.* (stating term encompasses "generation of additional bits by means of duplicating the original bits.").

meaning of “repeat” to require “storing new copied bit[s] in memory.”¹⁵ See, e.g. Docket No. 1174 at 1-2. Plaintiff states:

[i]nstead of explicitly stating that “repeating” requires “storing the new copied bit in memory,” Defendants’ experts claim that an information bit cannot be repeated by distributing it to multiple components connected to a wire because (in that context) the value of the original information bit cannot be changed without resulting in a corresponding change to the repeated bit. However, the only way the original bit can change its value without resulting changing the repeated bit is if the repeated bit is stored in memory (e.g., registers, RAM, cache, latches, CD-ROMs, capacitors, etc.). Indeed, even though Defendants claim that bits can be “repeat[ed]” without storing new bits in memory, *they yet have to identify a single scenario* that meets Defendants’ interpretation of “repeat” and does *not* use memory.

Id. (citations omitted) (emphasis added).

The Court agrees with Plaintiff that Defendants appear to hang on the word “distinct” in a sentence of the claim construction order in a way that leads to an interpretation of the word “repeat” that is narrower than its plain and ordinary meaning. Docket No. 213 at 9 (“‘repeated bits’ are a construct *distinct* from the original bits from which they are created, as Defendants contend repeatedly.”). As the Court explained elsewhere in the claim construction order, “‘repeats’ indicates generation of additional bits.” *Id.* at 14. A relationship between the generated repeat bits and the original bit (for instance, in the context of memory “pointers,” see *id.* at 9) is not precluded by the claim construction order. In other words, to the extent Defendants would argue, for instance, that by saying repeated bits are “distinct” from the original bits, the Court somehow required difference or independence between the repeated and original bits, Defendants have not provided a basis for that position.

The Court agrees with Defendants, however, that on the current record, whether a branched wire meets the limitation of the claims, including a requirement for repeated bits, presents a question of fact. Whether the different points on the wire constitute the “exact same single bit” because “a wire, no matter the number of branches, settles to the exact same voltage at all points,” (Docket No. 1103 at 3) or whether the different points on the wire represent repeat bits consistent with the “connections” shown in Figure 3 of the asserted patents because “[a] wire is just a connection from A to B” (Docket No. 1174 at 2-3) presents fact questions that cannot be resolved

¹⁵ Plaintiff specifically requests that paragraphs 414-415, 432, 437, 449, 532-556, 558-562, and 566-569 of the Stark Report and paragraphs 159-170 and 172-179 of the Blanksby Report be excluded. Docket No. 998 at 7.

at this time.

2. “Low-Density Generator Matrix” (’710 Patent, Claim 20; ’781 Patent, Claim 5) and “First Coder” (’710 Patent, all asserted claims; ’781 Patent, Claim 9)¹⁶

Claim 15 of the ’710 Patent requires, *inter alia*, a “first coder operative to repeat said stream of bits regularly.” Claim 20 of the ’710 Patent requires that “the first coder comprises a low-density generator matrix coder.” During claim construction, Defendants argued that the term “generator matrix” should be construed as “a matrix that, when multiplied by a block of input bits, produced a number of output bits that is greater than or equal to the number of input bits.” Docket No. 213 at 13. The Court found that the term should be understood by its plain and ordinary meaning. *Id.* at 16. The term “first coder” was not briefed during claim construction.

Although the Court could attempt summarize the parties’ current dispute at a high level, Plaintiff’s arguments about Defendants’ experts’ opinions relating to the “first coder” term in particular have shifted over the course of its briefs.¹⁷ For instance, in its opening brief, Plaintiff argues that Defendants’ experts have impermissibly required that the first coder *must* output a codeword or parity bits. Docket No. 998 at 12. In its reply brief, Plaintiff argues that Defendants’ experts have impermissibly required that the first coder *must* output more bits than were input, because, Plaintiff argues, this fails to take into account that the first coder could be creating parity bits. Docket No. 1174 at 4. As Defendants also observe, the paragraphs of Defendants’ expert reports that Plaintiff requests stricken, particularly for the term “low-density generator matrix,” do not on their face all appear to provide opinions relating to that particular term.

More information is required, particularly Defendants’ responses to arguments in Plaintiff’s reply brief, to understand the nature of the parties’ dispute.

3. “Random” (’032 Patent, all asserted claims)

¹⁶ In its opening brief, Plaintiff argued that Defendants’ experts’ opinions regarding the “first coder” recited in Claim 15 of the ’710 Patent are improper because Defendants’ experts interpret the term to require that it must output parity bits. Docket No. 998 at 12. Defendants respond by stating, “Drs. Stark and Blanksby do not contend the claimed ‘first coder’ must output ‘parity bits.’” Docket No. 1103 at 19. In reply, Plaintiff argues that the parties’ dispute regarding “first coder” is the same as their dispute regarding “low-density generator matrix.” *See, e.g.* Docket No. 1174 at 6. Thus, the two disputes are considered together.

¹⁷ Plaintiff requests that paragraphs 414-415, 432, 437, 449, 532-556, 558-562, and 566-569 of the Stark Report and paragraphs 159-170 and 172-179 of the Blanksby Report be excluded with respect to the “low-density generator matrix” term and that paragraphs 566-569 of the Stark Report and paragraphs 172-179 of the Blanksby Report be excluded with respect to the “first coder” term. *See* Docket No. 998 at 7, 13.

During claim construction, Defendants proposed the terms “random” / “randomly” should mean “non-deterministic.” Docket No. 213 at 23. The Court rejected Defendants’ position, stating, “the intrinsic evidence supports the inference that the named inventors did not attach any specialized meaning to ‘random’ (or its variations), specifically not ‘non-deterministic’ . . . , and intended only its plain and ordinary meaning.” *Id.* at 24.

Plaintiff argues that Stark, in deposition testimony, improperly equated the claim term “random” to “non-deterministic.” Docket No. 998 at 7 (citing Excerpt of Deposition Transcript of Wayne Stark, Docket No. 998-3 at 106:8-9, 107:10-17). On this basis, Plaintiff argues that any of Stark’s opinions relating to the term “random” should be excluded.¹⁸

Defendants argue that “Stark’s report never says ‘random’ is limited to ‘non-deterministic,’ and instead expressly rejects this (baseless) criticism.” Docket No. 1103 (citing Declaration of Dr. Wayne Stark in support of Defendants’ Opposition to Motion to Exclude, Docket No. 1103-2, Ex. S-2 (“Stark Report,” ECF36-ECF222) ¶¶ 519-20). Defendants similarly argue that at his deposition, Stark “rejected the suggestion that ‘random’ is limited to ‘nondeterministic.’” Docket No. 1103 at 10.

During his deposition, Stark and Defendants’ counsel had the following colloquy:

Q. So in claim construction the defendants argued that “random” meant nondeterministic; right?

A. Right. Right.

Q. And the Court didn’t agree with the defendants’ construction; right?

A. I’m not sure I would characterize it that way.

Q. How would you characterize it?

A. I -- the way I understood the Court’s opinion was that ‘nondeterministic’ wasn’t more helpful than “random” in terms of the term.

Q. Okay. So -- so what definition did you use for “random” in your report?

A. Plain and ordinary meaning.

Q. And what’s the plain and ordinary meaning of “random”?

A. Something that has some chance involved.

¹⁸ Plaintiff specifically requests exclusion of paragraphs 252, 254, and 494-528 of the Stark Report. Docket No. 998 at 8. Plaintiff does not seek exclusion of Blanksby’s opinions relating to this limitation. *Id.* 8 n.4.

Q. And does that mean that it has to be nondeterministic?

[objection omitted]

A. I think “random” and “nondeterministic” are, kind of, equivalent in terms for the same thing.

So, I mean, you could use the word “nondeterministic,” but I don’t think it conveys any better meaning than “random”; and probably for ordinary people, they would understand more what random means than “nondeterministic.”

Q. So in forming your noninfringement opinions on the “random” limitation, you were essentially treating the term “random” as meaning nondeterministic; right?

[objection omitted]

A. No, I was -- I was treating the term “random” to mean random.

Q. And in your view “random” means nondeterministic; right?

A. Well, that’s one interpretation that you could apply to “random.” If it’s not deterministic, that means there’s some randomness in it. But I think the -- as I said earlier, the Court basically said that the word “random” is most likely better understood by a person than “nondeterministic.” And my understanding -- I -- I would agree with that; that “random” is a better word to use for an ordinary person, than “nondeterministic.”

Q. Can something that’s random be deterministic?

A. No, I --

[objection omitted]

-- think if it’s random it can’t be deterministic.

Q. Okay. So in your view “random” cannot mean deterministic. It must mean nondeterministic.

[objection omitted]

A. I think “random” means that there’s some -- some chance, some unstructuredness associated with something, something that can’t be predicted.

That’s, kind of, how “random” should be interpreted.

You can’t predict something from another thing if it’s random.

Docket No. 998-3 at 105:12-108:4. Stark’s testimony suggests that the claim construction order

simply found that “random” was a “better word” than “nondeterministic.” In other words, Stark testifies that the claim construction order did not necessarily reject Defendants’ claim construction proposal. This interpretation of the claim construction order is not supported by the record. *See, e.g.*, Docket No. 213 at 24 (“A holistic review of the claim language and the specification indicates that Defendants’ proposed construction runs contrary to the intrinsic evidence.”). Stark otherwise testifies that “if it’s random it can’t be deterministic.” *See supra*. Stark also testifies that “random” and “nondeterministic” can be considered “equivalent” terms.

Plaintiff argues, without citation, that “[i]f you can’t predict something from another thing, then it is non-deterministic.” Docket No. 1174 at 5. It appears that Plaintiff’s position, inversely, is that it is possible to predict something from another thing, but still have it be random.

More context is required to understand the parties’ dispute and its impact on dispositive issues in the case. The Court expects the parties to explain their interpretations of the plain and ordinary meaning of “random” consistent with the claim construction order (and, in comparison, their interpretations of both “nondeterministic” and “not deterministic”) so that the Court can determine whether those interpretations actually differ or whether the parties instead have a factual dispute rooted in the application of the claims to the accused products.

4. “Repeat . . . Irregularly” (all asserted claims)

The asserted claims require irregular repetition of information bits.¹⁹ For instance, Claim 15 of the ’710 Patent states, *inter alia*, “a first coder having an input configured to receive a stream of bits, said first coder operative to repeat said stream of bits irregularly and scramble the repeated bits.”²⁰ Plaintiff argues that Defendants’ experts provide expert opinions that rely on an improperly narrow interpretation of this claim language.²¹

[REDACTED]

[REDACTED] Compare

Docket No. 998 at 9 *with* Docket No. 1103 at 13. [REDACTED]

¹⁹ The asserted claims of the ’710 and ’032 Patents include an “irregular” limitation. The asserted claims of the ’781 Patent require that bits appear in a “variable number of subsets,” supporting a requirement for irregular repetition of bits. *See* Docket No. 849 at 22.

²⁰ Claim 15 of the ’710 Patent is not itself an asserted claim, but asserted Claims 20, 22, and 23 depend from Claim 15.

²¹ Plaintiff specifically requests that Defendants’ expert opinions in paragraphs 410-413, 420-425, 430-431, and 436 of the Stark Report and paragraph 109 of the Blanksby Report be excluded. *See* Docket No. 998 at 10.

[REDACTED]

[REDACTED] See, e.g., Docket No. 1174 at 5-6 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Docket No. 1103 at 13 [REDACTED]

[REDACTED] (Dkt. 213 at 9), [REDACTED]

[REDACTED].”). Because, according to Defendants, the step of repeating

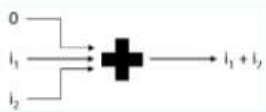
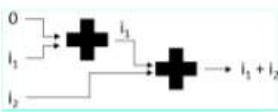
bits itself does not lead to irregular repetition (this only occurs after the puncturing step), the claim language is not satisfied. *Id.*; see also *id.* at 12.

The parties have presented a factual dispute regarding whether the accused products infringe the “repeat . . . irregularly” limitations of the asserted claims. Whether to characterize the accused products’ process as a single overall repetition “implementation” step or separate repetition and puncturing steps will depend on how a person of ordinary skill in the art would apply the claim language to the accused products. Plaintiff’s arguments relating to Defendants’ experts’ application of the term “repeat . . . irregularly” are rejected.

5. “Sums” (’781 Patent, all asserted claims)

During claim construction, the parties agreed that “sums of bits in subsets of information bits” (and variations thereof) should be construed as “the result(s) of adding together two or more information bits from a subset of information bits.” Dkt. 125 at 1-2. In essence, the parties now dispute whether summing bits by “accumulation” satisfies the parties’ agreed construction. Plaintiff characterizes the parties’ dispute in its opening brief:

As shown in the table below, according to Defendants’ experts, summing $0+i_1+i_2$ to yield the result i_1+i_2 in a single operation would be a sum of subsets of information bits, but summing $0+i_1$ to yield the result i_1 and then summing i_1+i_2 to yield i_1+i_2 [*i.e.*, “accumulation”] would not be a sum of subsets of information bits[:]

Admittedly a Sum of Information Bits	Allegedly Not a Sum of Information Bits
	

Docket No. 998 at 13.

Plaintiff argues that Defendants’ experts have taken an improperly narrow view of the term

“sum.”²² Plaintiff argues that “accumulation is a form of summation,” and thus the example in the chart on the right should be covered by the claim term “sums of bits.” Among other arguments, Plaintiff also argues that Defendants’ experts have themselves admitted that “the claimed ‘sums’ cover the result of accumulation.” *Id.* at 15; *see also id.* at 16 (“Both experts subsequently tried to retract their admissions by submitting errata, but this should not detract from their prior admissions.”). Defendants argue that the ’781 Patent claims use both the terms “accumulation” and “sums,” supporting a presumption that the two terms have different meanings. Docket No. 1103 at 14. Defendants note that in the *Hughes* case, Judge Pfaelzer found, in denying Plaintiff’s motion for summary judgment of infringement, that adding a parity bit and an information bit in a similar recursive fashion does not satisfy the claim language “sums of bits.” *Id.* at 15.

In her summary judgment order, Judge Pfaelzer specifically stated:

[t]he accumulator never adds together, for example, i1 and i2. Instead, the accumulator sums i1 and p0 to generate p1. The accumulator then sums p1 and i2. But p1 is not an “information bit from the subset of information bits.” Instead, p1 is a newly created bit that does not appear in the original subset of information bits (i1, i2, and i3). Given these facts, the procedure performed by DVB-S2 technology does not “[accumulate] mod-2 or exclusive-OR sums of bits in subsets of the information bits.”

California Inst. of Tech. v. Hughes Commc’ns Inc., LACV13-07245-MRP-(JEMx), Docket No. 370 (C.D. Cal. May 5, 2015).²³ Plaintiff argues that Judge Pfaelzer’s interpretation of the “sums” limitation is “non-binding” and “does not compel a different outcome” because she was addressing whether products not at issue in this case infringe the asserted patents. Docket No. 1174 at 7 n.8. Plaintiff alternatively argues, “to the extent that opinion addresses claim construction, it is contrary to the plain meaning of sums, the specification, and Defendants’ experts’ sworn statements.” *Id.*

Plaintiff agreed to the same construction of the phrase “sums of bits in subsets of information bits” in this case that the parties in the *Hughes* case had agreed to, despite the fact that, approximately two years earlier, Judge Pfaelzer had effectively interpreted the “sums of bits” term (and the parties’ same agreed construction for that term) in her summary judgment order. Having reviewed the parties’ agreed construction, which requires “adding *together* two or more *information* bits,” the Court agrees with Judge Pfaelzer that adding an outputted bit and an

²² Plaintiff asks that paragraphs 653-670 and 672-699 of the Stark Report and paragraphs 212-234 of the Blanksby Report be excluded. Docket No. 998 at 16.

²³ Judge Pfaelzer’s summary judgment order is also available at Docket No. 127-7 in this case.

information bit would not satisfy this construction.

The Court has also reviewed Plaintiff's citations to the intrinsic and extrinsic record and is not persuaded that they warrant a different outcome. Plaintiff's request to exclude Defendants' experts' opinions related to the "sums" claim terms is rejected.

6. "Stream" ('710 Patent, all asserted claims; '032 Patent, Claim 3)

The parties dispute whether a "stream" of bits can be made up of "blocks" of bits. Plaintiff argues that Defendants' experts take an improperly narrow view of the scope of the term "stream" because they treat "streams of bits" and "blocks" of data as mutually exclusive.²⁴ Docket No. 1174 at 7. Plaintiff argues, "[t]here is no support whatsoever for this false dichotomy in the intrinsic or extrinsic evidence." *Id.* Plaintiff cites to portions of the patent specification and argues that it discloses receiving a "stream of bits" "partitioned into blocks of fixed size." *Id.* (citing '710 Patent at 2:35-38). Defendants argue that language in the claims and statements that Plaintiff made in IPR proceedings "demonstrate that 'streams of bits' are different from 'blocks.'" Docket No. 1103. Defendants, however, do not directly explain why a person of ordinary skill in the art would find that a stream of bits - as that phrase is used in the asserted patents - cannot include bits that are streamed as part of a collection of data blocks.

The Court agrees with Plaintiff that to the extent Defendants' experts have submitted opinions relying on an interpretation of "stream of bits" that wholly excludes bits streamed in the form of blocks, Defendants' experts' opinions would be taking a narrow view of the term "stream of bits" that is not consistent with its plain and ordinary meaning. As Plaintiff observes, in describing Figure 2, the '710 Patent states:

FIG. 2 illustrates a coder 200 according to an embodiment. The coder 200 may include an outer coder 202, an interleaver 204, and inner coder 206. The coder may be used to ***format blocks of data for transmission***, introducing redundancy ***into the stream of data*** to protect the data from loss due to transmission errors. The encoded data may then be decoded at a destination in linear time at rates that may approach the channel capacity.

'710 Patent at 2:33-40. Defendants have not explained how their position would be consistent with this passage of the specification, even though Plaintiff identified it in its opening brief. *See, e.g.*, Docket No. 998 at 16-17. The portions of Defendants' experts' opinions relying on a

²⁴ Plaintiff specifically requests that the Court strike paragraphs 579-593 and 596-598 of the Stark Report and paragraphs 182-187 of the Blanksby Report. Docket No. 998 at 17.

narrowed interpretation of this claim term would thus be excluded.

7. “Tanner Graph” (’032 Patent, Claims 11, 17, and 18)

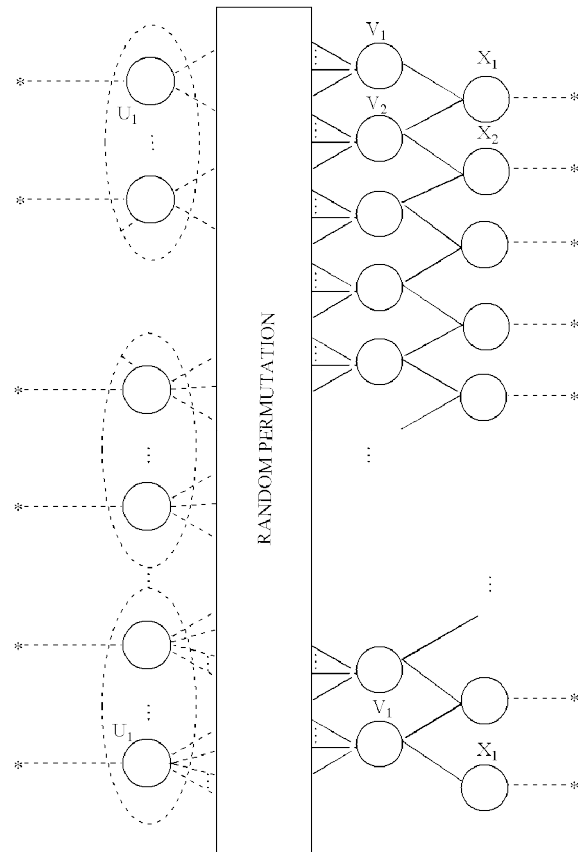
The Court construed the term “Tanner Graph” as “a graph representing an IRA code as a set of parity checks where every message bit is repeated, at least two different subsets of message bits are repeated a different number of times, and check nodes, randomly connected to the repeated message bits, enforce constraints that determine the parity bits.” Docket No. 213 at 32. Both parties’ proposed construction had included this language, and Defendants’ proposed construction also included additional language. The Court found that “[t]he part of the proposed constructions over which the parties agree . . . sufficiently describes the edges that connect check nodes with parity nodes, especially in light of the embodiment and related description provided in the specification, and accurately conveys the scope of the claimed invention.” *Id.* at 17.

Plaintiff argues that Defendants’ experts have taken an improperly narrow view of the claim term, opining that “claims 11, 17, and 18 of the ’032 Patent literally require an accused device to have ‘check nodes.’”²⁵ Docket No. 1174 at 8. Plaintiff argues that the claims simply require an encoder configured “in accordance with” a Tanner graph, not that it physically include a Tanner graph. *Id.* Defendants argue that Plaintiff’s reliance on the phrase “in accordance with” in the claims would “vitiate” the Tanner Graph claim requirement altogether. Docket No. 1103 at 11. Defendants focus on the claims’ requirement of an encoder “configured to” encode. *Id.* (“In construing the Tanner graph’s requirements, the Court defined how an ‘encoder’ must be ‘configured’ in order to practice these claims - including that it must be ‘configured to’ use ‘check nodes [that] enforce constraints that determine the parity bits.’”).

Claim 11 of the ’032 Patent states:

11. A device comprising:
 - an encoder configured to receive a collection of message bits and encode the message bits to generate a collection of parity bits in accordance with the following Tanner graph:

²⁵ Plaintiff requests that paragraphs 614-622 and 624 of the Stark Report and paragraphs 196-204 of the Blanksby Report be excluded. Docket No. 998 at 18.

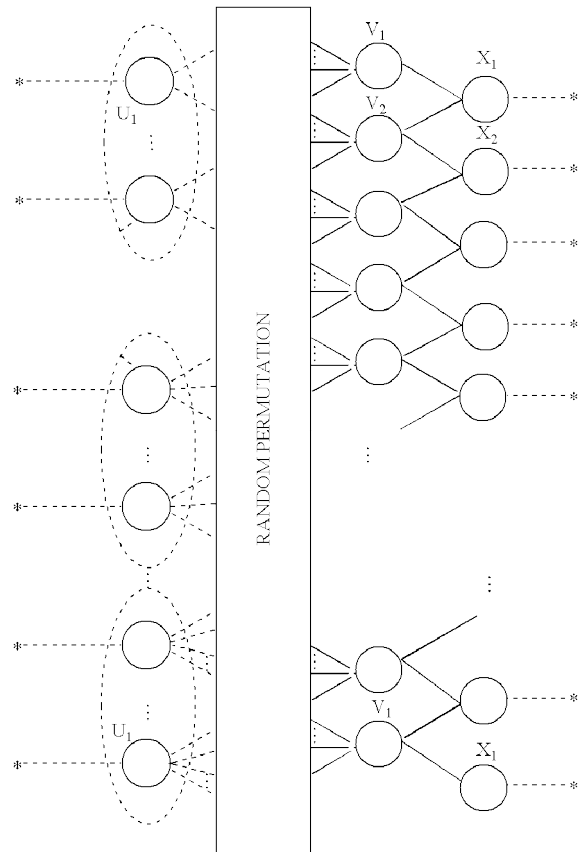


As construed during claim construction, Claim 11 effectively reads:

11. A device comprising:
 - an encoder configured to receive a collection of message bits and encode the message bits to generate a collection of parity bits in accordance with [a graph representing an IRA code as a set of parity checks where every message bit is repeated, at least two different subsets of message bits are repeated a different number of times, and check nodes, randomly connected to the repeated message bits, enforce constraints that determine the parity bits.]

Claim 18 of the '032 Patent states:

18. A device comprising:
 - a message passing decoder configured to decode a received data stream that includes a collection of parity bits, the message passing decoder comprising two or more check/variable nodes operating in parallel to receive messages from neighboring check/variable nodes and send updated messages to the neighboring variable/check nodes, wherein the message passing decoder is configured to decode the received data stream that has been encoded in accordance with the following Tanner graph:



As construed during claim construction, Claim 18 effectively reads:

18. A device comprising:
 - a message passing decoder configured to decode a received data stream that includes a collection of parity bits, the message passing decoder comprising two or more check/variable nodes operating in parallel to receive messages from neighboring check/variable nodes and send updated messages to the neighboring variable/check nodes, wherein the message passing decoder is configured to decode the received data stream that has been encoded in accordance with [a graph representing an IRA code as a set of parity checks where every message bit is repeated, at least two different subsets of message bits are repeated a different number of times, and check nodes, randomly connected to the repeated message bits, enforce constraints that determine the parity bits.]

Plaintiff has not shown that Defendants' experts' application of the claim term "Tanner Graph," based on the position that an accused encoder must employ check nodes in order to "enforce constraints that determine the parity bits," is inconsistent with how that term was construed by the Court and how it is used in the context of the claim language, particularly when considering Claim

18.²⁶ Plaintiff's argument is thus rejected.

8. “Scrambled” / “Permutation” (’710 Patent, all asserted claims; ’032 Patent, Claims 11, 17, and 18)

Plaintiff argues that Defendants' experts rely on an impermissibly narrow meaning of the claim terms “scrambled” and “permutation” for separate reasons with respect to the ’710 Patent asserted claims and ’032 Patent asserted claims.²⁷ See Docket No. 1174 at 8-9. Plaintiff characterizes the issues in dispute as “(1) whether claims 11, 17, and 18 of the ’032 patent require a two-step process of irregular repetition followed by scrambling; and (2) whether claim 15 of the ’710 patent requires that same two-step process.” *Id.* Plaintiff argues that repetition and scrambling can occur simultaneously, while Defendants argue that they must occur serially. *Id.*

The parties appear to agree that although Claims 11, 17, and 18 of the ’032 Patent do not use the words “scrambled” or “permutation,” irregular repetition and permutation are depicted in the claimed Tanner Graph. The parties' dispute relates to whether, in reading a Tanner Graph, “events” like repeating bits and scrambling bits, which admittedly occur in different places in the visual Tanner Graph representation, must also occur at different times or in a particular sequence. The parties' arguments support the conclusion that in the context of these claims, the parties have presented factual disputes about the application of the asserted claims to the accused products, including factual disputes that may be similar to those for the term “repeat . . . irregularly.”

Regarding Claim 15 of the ’710 Patent,²⁸ the parties dispute whether the particular language of the claim supports the conclusion that repeating and scrambling are or are not performed simultaneously. Claim 15 states:

15. A coder comprising:
a first coder having an input configured to receive a stream of bits, said
first coder operative to repeat said stream of bits irregularly and

²⁶ The parties have not requested, and the Court does not provide an opinion regarding, whether Plaintiff's expert applies the claim term “Tanner Graph” to the accused products consistent with how it is used in the asserted claims of the ’032 Patent. There is too little information in the parties' papers to make such a determination. Although Plaintiff challenges Defendants' experts' application of the claim language and generally states, “[b]its can be encoded ‘in accordance with’ the Tanner graph even if an encoder does not include the specific circuitry shown in the graph,” (Docket No. 1174 at 8) Plaintiff does not fully explain its position or its expert's position regarding this term and, for instance, how it and the requirement of “enforc[ing] constraints that determine the parity bits” can be satisfied by an accused product.

²⁷ Plaintiff requests that paragraphs 453-479 of the Stark Report and paragraphs 118 and 124-149 of the Blanksby Report be excluded. Docket No. 998 at 20.

²⁸ All asserted claims of the ’710 Patent depend from Claim 15 of the ’710 Patent.

scramble the repeated bits; and
a second coder operative to further encode bits output from the first
coder at a rate within 10% of one.

Defendants emphasize that because Claim 15 refers to “said first coder operative to repeat said stream of bits irregularly and scramble the *repeated* bits,” it requires that repeating the bits occur before scrambling the bits. Docket No. 1103 at 16-17 (citing *Tuna Processors, Inc. v. Hawaii Int’l Seafood, Inc.*, 327 F. App’x 204 (Fed. Cir. 2009)). Plaintiff argues that the ’710 Patent specification does not support Defendants’ interpretation, and moreover that the parties have a grammar dispute. Docket No. 1174 at 9-10. Plaintiff states, “[t]he parties dispute whether ‘repeated bits’ refers to ‘bits’ that *are* ‘repeated’ or ‘bits’ that *were* ‘repeated.’ The intrinsic evidence indicates that it is the former - the bits being ‘repeated’ are also ‘scramble[d].’” *Id.* at 10 (emphasis in original) (citing ’710 Patent at Fig. 4, Claim 20).

Plaintiff’s interpretation of the phrase “said first coder operative to repeat said stream of bits irregularly and scramble the repeated bits” in Claim 15 is not persuasive insofar as Plaintiff would argue that bits can be repeated before they are scrambled. To the extent Plaintiff’s position is simply that the two actions on a large scale can occur simultaneously, this position would likely present fact questions requiring a determination of whether, on a small scale level, repetition of a particular bit has taken place before it is scrambled. For similar reasons, to the extent Defendants would take the position that the large scale processes of repetition and scrambling must take place completely separately and sequentially, such a position is not necessarily supported by the claim language. Beyond these comments, there is not enough information about the nuances of the parties’ disputes to make any further determinations about the parties’ positions, and any determination about whether certain expert opinions should be excluded based on their interpretations of these claim terms would be deferred.

9. Conclusion

As stated herein, the Court would **DENY-IN-PART, GRANT-IN-PART, and DEFER-IN-PART** Plaintiff’s Motion to Exclude Improper Claim Construction Opinions of Dr. Stark and Dr. Blanksby (Docket No. 968). The Court would **DENY** the motion as to the terms “repeat” (but with the clarifications about the scope of the claim term provided herein), “repeat . . . irregularly,” “sums” (but with the clarifications about the scope of the claim term provided herein), and “Tanner Graph.” The Court would **GRANT** the motion as to the term “stream,” **STRIKE** paragraphs 579-

593 and 596-598 of the Stark Report and paragraphs 182-187 of the Blanksby Report, and **EXCLUDE** any testimony regarding a meaning of the claim term “stream” that is inconsistent with this Order. The Court would **DEFER** a ruling on the motion as to the terms “low density generator matrix,” “first coder,” “random,” and “scrambled”/“permutation.”

D. Motion to Strike Certain Opinions of Frey and Stark

Plaintiff moves to exclude allegedly “new invalidity theories and supplemental non-infringement” theories disclosed in the certain expert reports of Dr. Wayne Stark and Dr. Brendan Frey.^{29, 30} Docket No. 974.

Plaintiff argues that in their rebuttal expert reports, Stark and Frey for the first time disclosed new non-infringement and invalidity theories, respectively, “based on prior art Hamming Codes and SEC-DED codes.”³¹ Docket No. 1000 at 2. Plaintiff also argues that Defendants served a second supplemental report for Frey less than 24 hours before his December 2018 deposition “raising new § 112 written description invalidity theories and a new obviousness theory based on a source code file titled “RA.c.” *Id.* Plaintiff notes that Defendants had included the RA.c reference as a relevant prior art reference in each of the first four iterations of their invalidity contentions, but removed it in their fifth iteration served May 31, 2018. Docket No. 1000 at 6.

Defendants argue that the challenged portions of Stark’s and Frey’s reports are proper rebuttal opinions to opinions raised by Plaintiff’s experts. Docket No. 1102. Defendants also argue that the Stark and Frey opinions relating to Hamming Codes and SEC-DED³² codes are used to “demonstrate how Dr. Shoemake and Caltech have misapplied the Court’s construction of the term ‘repeat’ in a way that covers matrices that pre-date Caltech’s alleged invention by decades.” *Id.* at 10. Defendants alternatively argue that even if not proper rebuttal, Plaintiff is not prejudiced by the timing of the disclosure of these new opinions.

²⁹ See Plaintiff’s Motion to Strike Certain Opinions of Defendants Experts Brendan Frey and Wayne Stark, Docket No. 974 (public), Docket No. 1000 (sealed); Opposition, Docket No. 1059 (public), Docket No. 1102 (sealed); Reply, Docket No. 1141 (public), Docket No. 1175 (sealed).

³⁰ Plaintiff specifically requests that the Court “strike Paragraphs 246-72, 305, and 343 of Dr. Stark’s Rebuttal Report, Paragraphs 18 and 589-843 of Dr. Frey’s Supplemental Report, and the entirety of Dr. Frey’s Second Supplemental Report.” Docket No. 1000 at 3.

³¹ Stark’s rebuttal non-infringement report was served August 14, 2018 and Frey’s rebuttal invalidity report was served October 12, 2018. See Docket No. 1000 at 4-5.

³² Defendants refer to “SEC-DED” Codes as “Hsiao” Codes. See, e.g. Docket No. 1102 at 10.

1. Second Supplemental Frey Report

Defendants have failed to provide a basis for the timing of their disclosure of opinions in Frey's second supplemental report. They do not identify any late discovery as supporting the late disclosure of the opinions, nor do they identify any agreement with Plaintiff to serve a supplemental report shortly before Frey's deposition.

Particularly regarding Frey's opinions for the "RA.c" source code file, the fact that Defendants listed the RA.c reference in four iterations of invalidity contentions before dropping it from their fifth iteration supports the conclusion that Frey should not now be permitted to opine on it in a second supplemental expert report. Even if, as Defendants argue, Frey's opinions were properly limited to considering the RA.c reference as a rebuttal to Plaintiff's arguments regarding secondary considerations of non-obviousness, this record and the timing of Frey's disclosure of those opinions support exclusion.³³ As Defendants note, Plaintiff served its expert reports regarding secondary considerations of non-obviousness on August 14, 2018.³⁴ See Docket No. 1102 at 12. Yet, Frey did not disclose his RA.c opinion until a day before his deposition on December 3, 2018. These opinions will not be permitted.

Similar concerns exist for Frey's late-disclosed written description theory. As Plaintiff notes, its infringement theory relating to accumulators operating in parallel was disclosed in infringement contentions on January 17, 2018. Docket No. 1000 at 11. Indeed, Defendants argue that they responded to this position in their May 2018 non-infringement contentions. Docket No. 1102 at 6. Defendants do not explain, however, their failure to disclose an invalidity theory

³³ Frey's second supplemental expert report states, "Caltech's experts mistakenly suggest that if making RA codes irregular was obvious before the alleged invention someone would have done it Caltech's experts ignore that my colleague and co-author, the late David J.C. MacKay, did make RA codes irregular before the claimed invention of the asserted patent claims." Second Supplemental Report of Dr. Brendan Frey, Docket No. 974-10 ¶¶ 7, 8. Frey goes on to state that a comment in the RA.c file "explicitly teaches irregular repeat-accumulate codes." *Id.* at ¶ 11. Even if Defendants had timely disclosed such a theory as relating to secondary considerations of non-obviousness (Plaintiff presents evidence to support the conclusion that they did not timely disclose it (Docket No. 1175 at 3 (citing Apple's final response to an interrogatory relating to secondary considerations))), the possibility that Frey's opinions would lead to prejudice and jury confusion, effectively allowing Defendants to sweep in RA.c as another prior art invalidity reference, would be high.

³⁴ Plaintiff argues that its theory regarding secondary considerations was disclosed as early as January 2017 (see Docket No. 1175 at 2 n.1) and in its infringement contentions "no later than January 2018" (*id.* at 2). Defendants essentially agree that they were on notice of Plaintiff's theory by October 2017, stating, "Caltech disclosed its contention that the 'failure of others' in the field to arrive at the claimed IRA codes tends to show that the asserted claims are non-obvious in supplemental interrogatory responses served on the last day of fact discovery, October 13, 2017." Docket No. 1102 at 7.

relating to the “second accumulator” concept until Frey’s second supplemental expert report in December 2018, particularly when they served a rebuttal report for Frey in October 2018. Defendants’ argument that Frey simply provides an “evidentiary example or complementary proof” is unpersuasive. Frey specifically sets forth an opinion for the first time that the asserted claims are invalid under § 112 ¶ 1 if the claim language is applied as Plaintiff and its experts propose. These portions Frey’s second supplemental expert report must be excluded as untimely, because there is not a sufficient basis to support their untimeliness.

2. Frey/Stark Opinions Regarding Hamming Codes and SEC-DED Codes

Defendants argue that the challenged opinions in the Frey and Stark reports relating to Hamming Codes and SEC-DED Codes are used to:

[i]llustrate how Caltech and Dr. Shoemake have stretched the claim term “repeat” beyond its plain and ordinary meaning to argue infringement. Apple and Broadcom timely disclosed that ‘the number of ones in each column’ of a parity check matrix ‘is not a ‘repeat’ in their May 17, 2018 Supplemental Non-Infringement Contentions. Dr. Stark and Dr. Frey use Hamming and Hsiao codes as examples to illustrate how matrices in codes that Dr. Shoemake admits are prior art meet the ‘repeat’ limitation under Caltech’s improperly broad application of that term.

Docket No. 1102 at 1.

In the claim construction order, the Court stated:

[t]he Asserted Patents provision for creation of parity bits by “choos[ing]” other bits, thereby repeatedly selecting the bits for use without necessarily storing them at a specific location in computer memory The Asserted Patents also set forth such an implementation in the LDGM coder, which performs the repeat of the message bits using matrix multiplication, the output of which is then fed to an inner coder, an accumulator that performs additional operations on the transitory (repeated and interleaved) bits to produce the final IRA codes. *See, e.g.,* ’710 Patent at 3:51-57.

Docket No. 213 at 9-10. More information is required at the hearing regarding whether the experts’ opinions are consistent with the claim construction order, as well as the Court’s comments *supra* in the context of Plaintiff’s motion to exclude improper claim construction opinions. To the extent the experts, through their arguments, are advocating an interpretation of the claims that is inconsistent with the claim construction order, exclusion would be appropriate.

Even if improper claim interpretation is not an issue, the Court agrees Frey’s opinions relating to Hamming Code and SEC-DED Code cause concern because they would effectively

allow Frey to “backdoor” invalidity arguments regarding prior art references that were not disclosed in invalidity contentions or Frey’s opening expert report.³⁵ Indeed, sections of Frey’s supplemental report are titled “Hamming Codes Invalidate the Asserted Claims As Applied By Caltech And Dr. Shoemake” and “The Hsiao (SEC-DED) Code Invalidates the Asserted Claims as Applied By Caltech and Dr. Shoemake.” *See* Supplemental Expert Report of Dr. Brendan Frey, Docket No. 974-9 at v. As part of narrowing the scope of this case, Defendants were limited to identifying seven prior art invalidity “grounds” per patent, and Hamming Codes / SEC-DED Code grounds were not on that earlier list. Frey’s extensive invalidity opinions (spanning hundreds of paragraphs of his report) seem to provide more than merely an “evidentiary example or complementary proof.” The parties may address this issue at the hearing as well.³⁶

Claim interpretation issues aside, certain of Stark’s rebuttal non-infringement report do not appear to suffer from the same additional concerns as Frey’s supplemental report. Indeed, Plaintiff does not challenge every paragraph of Stark’s rebuttal report criticizing Shoemake’s interpretation of the claim term “repeat.” Some of Stark’s rebuttal opinions could well be categorized as “evidentiary examples” highlighting the difference between Shoemake’s and Stark’s understanding of the plain and ordinary meaning of the claims. *See, e.g.* Rebuttal Expert Report of Dr. Wayne Stark, Docket No. 1000-5 ¶ 237. But Stark crosses the line when he begins comparing the claim language at issue to prior art references and explicitly states for instance, that under Shoemake’s logic, the claims “embrace the prior art Hamming code.” *See, e.g., id.* ¶ 254. Stark is an expert offering opinions related to non-infringement, not invalidity. At the hearing, the

³⁵ Defendants make the comment that “[b]ecause Dr. Frey’s opinions primarily relate to an issue on which Apple and Broadcom bear the burden of proof (*i.e.*, invalidity), his response to Dr. Shoemake’s overly broad interpretation of the claims was appropriately addressed in a supplemental expert report.” Docket No. 1102 at 11 n.5. This comment even further begs the question why Defendants, knowing they bore the burden of proof on invalidity and being on notice of Plaintiff’s theories by virtue of contentions, did not include such opinions in Frey’s opening expert report, particularly when they argue that they *did* disclose an argument that “a parity check matrix is *not* a repeat within the meaning of the claims,” albeit in May 2018 non-infringement contentions. *See id.* at 9 (emphasis in original).

³⁶ The Court notes that a litigant is not precluded “from arguing that if a claim term must be broadly interpreted to read on an accused device, then this same broad construction will read on the prior art.” *01 Communique Lab., Inc. v. Citrix Sys., Inc.*, 889 F.3d 735, 742 (Fed. Cir. 2018). The problem here is that, even though Defendants were long on notice of Plaintiff’s infringement contentions and thus Plaintiff’s broad interpretations of the scope of the claims, Defendants did not allocate any of their prior art invalidity theories to alternative theories relying on Plaintiff’s claim interpretations until long after invalidity contentions and even opening expert reports were due. Thus, Defendants effectively deprived Plaintiff of the notice it should have been afforded to have time to respond to these alternative theories. The Court expects the parties to address this point at the hearing as well.

Court would like the parties to provide more information regarding whether all of Plaintiff's identified paragraphs in the Stark Rebuttal Report, *i.e.* ¶¶ 246-72, 305, and 343, suffer from these concerns or whether certain of them need not be excluded on these bases. *See, e.g. id.* ¶ 255 (stating, *inter alia*, "[t]he appearance of a code's Tanner graph is also not indicative of whether that code is an IRA code" without necessarily seeming to compare the claim language to particular prior art references.).

3. Conclusion

Plaintiff's Motion to Strike Certain Opinions of Defendants' Experts Brendan Frey and Wayne Stark (Docket No. 974) would be **GRANTED-IN-PART** and **DEFERRED-IN-PART** pending discussion at the hearing. Specifically, the Court would **GRANT** Plaintiff's motion to the extent it seeks exclusion of the opinions disclosed in Frey's second supplemental expert report. The Court would **DEFER RULING** on Plaintiff's motion with respect to Frey's supplemental expert report and Stark's rebuttal expert report for the reasons stated herein.

E. Motion to Strike Late-Disclosed Non-Infringing Alternative

Plaintiff moves to exclude the testimony of Defendants' experts relating to a non-infringing alternative theory as not timely disclosed.^{37, 38} Docket No. 971.

On the deadline for the parties to serve rebuttal expert reports, Defendants for the first time served a Disclosure and Declaration for Dr. Andrew Blanksby. Docket No. 1101 at 5. Blanksby is a long-time Broadcom employee. Thus, Defendants attempted to invoke Rule 26(a)(2)(C) when disclosing more limited opinions for him. The August 2018 Disclosure included the statement that Blanksby "expect[s] to testify about the design, development, and operation of the Broadcom accused products, and a Direct Encoder that [he] designed." Docket No. 699-2 ¶ 12. It further stated, "I expect to testify that the Broadcom accused products and the Direct Encoder that I designed do not implement several elements of the claims of the patents-in-suit." *Id.* ¶ 14. Plaintiff argues, and Defendants do not dispute, that the Blanksby Disclosure was the first instance where the Direct Encoder was disclosed as part of a non-infringing alternative theory. On the same day,

³⁷ *See* Plaintiff's Motion to Strike Late-Disclosed Non-Infringing Alternative, Docket No. 971 (public), Docket No. 996 (sealed); Opposition, Docket No. 1052 (public), Docket No. 1101 (sealed); Reply, Docket No. 1144 (public), Docket No. 1176 (sealed).

³⁸ Unlike its other motions to exclude/strike, for this motion, Plaintiff does not provide a listing of the specific paragraphs of Defendants' expert reports that it seeks to have excluded.

Defendants also served rebuttal expert reports for Dr. Wayne Stark and Vincent Thomas that referred to the Direct Encoder and presented opinions about it that, according to Stark and Thomas, are based on undocumented discussions with Blanksby.³⁹

Soon after Defendants served the Blanksby Disclosure, Plaintiff moved to strike it in full, arguing that it failed to meet the applicable requirements of Rule 26(a)(2). Docket No. 699. In its motion, Plaintiff referred to the Direct Encoder and speculated that it was created for this litigation. *Id.* at 2 (“For instance, he references: . . . a previously-undisclosed “Direct Encoder” he developed (also apparently for this litigation).”); 12-13 (“Dr. Blanksby’s opinions regarding his ‘Direct Encoder’ . . . are also, by all indications, based on work Dr. Blanksby performed solely for purposes of this litigation.”). Defendants did not rebut these suppositions in their opposition brief. *See* Docket No. 720 at 12 (referring to Direct Encoder but not rebutting Plaintiff’s assertions about its origins).

On October 22, 2018, the Court issued an order striking the Blanksby Disclosure, but permitting Blanksby to submit a more fulsome accounting of his expert opinions. Docket No. 746 at 3. The order further stated that “Defendants must . . . produce all materials related to and/or underlying Blanksby’s expert opinions” within seven days. *Id.*

Blanksby served an amended disclosure on November 9, 2018. Docket No. 1101 at 6. Beyond the source code for the Direct Encoder,⁴⁰ Defendants do not dispute that they have not produced any other documents relating to the Direct Encoder. Plaintiff did not move to compel the production of additional documents relating to the Direct Encoder.

During his December 2018 expert deposition, Blanksby was asked questions about the Direct Encoder. *See generally* Excerpts of December 14, 2018 Blanksby Deposition Transcript, Docket No. 1101-2. In response to questions from Plaintiff’s counsel, Blanksby testified that: (1) he developed the Direct Encoder (*id.* at 280:7-8); (2) he [REDACTED] (*id.* at 280:9-14); (3) [REDACTED] (*id.* at 281:15-22); and (4) [REDACTED] (*id.* at 281:24-282:3). He

³⁹ Although Plaintiff makes some passing comments about the sufficiency of Defendants’ experts’ opinions (Docket No. 996 at 5 (referring to Stark’s and Thomas’s opinions related to the Direct Encoder as “incomplete”)), because Plaintiff brings this motion as a Rule 37 motion, these comments are viewed through the lens of Rule 37(c), not *Daubert* or otherwise as a motion *in limine*.

⁴⁰ Defendants produced the source code for the Direct Encoder before the Court issued its October 2018 order.

testified [REDACTED]

[REDACTED] *Id.* at 281:6-13.

Both before the Court issued its October 2018 order and after Blanksby's deposition, Plaintiff's expert, Shoemake, served expert reports with opinions relating to the Direct Encoder. *See* Docket No. 1103 at 5-6.

Plaintiff's arguments to support its current motion run the gambit. Plaintiff identifies evidence to support an argument that development of the Direct Encoder happened long before June 2018. Docket No. 1176 at 1. Plaintiff argues Defendants have "concoct[ed]" a "carefully crafted" story regarding the timing of development on the one hand, but Plaintiff argues on the other hand that Defendants' claim that development of the Direct Encoder was not motivated by this litigation is "not plausible." Docket No. 1176 at 1, 3, 3-4 n.2. Plaintiff argues that it has been "wholly deprived of fact discovery" because of the late timing of disclosure of Defendants' Direct Encoder non-infringing alternative theory and thus Plaintiff could not test Defendants' experts' assertions about the Direct Encoder. *Id.* at 1-2. Plaintiff also argues that Defendants' experts were unable to answer "basic technical questions about the Direct Encoder," further compromising Plaintiff's ability to take expert discovery. *Id.* at 7.

The Court declines to make a factual determination at this time about the veracity of statements that the Direct Encoder was first developed in June 2018. The Court also declines to make a factual determination at this time about the motivations underlying development of the Direct Encoder. Plaintiff had a full opportunity in December 2018 to depose Blanksby - who testified under oath - regarding the Direct Encoder, including his development of it and his opinions relating to it. Plaintiff also had a full opportunity to explore the opinions of Defendants' other experts (and their purported shortcomings) during their depositions. Indeed, Plaintiff's expert prepared and served his own competing opinions relating to the Direct Encoder. The Court finds the October 2018 timing of Defendants' disclosure of the Direct Encoder non-infringing alternative theory effectively harmless given these efforts. To the extent Defendants did not produce the answers to Plaintiff's questions or the amount of discovery that Plaintiff would have wished, Defendants will similarly be precluded from relying on any of that allegedly missing information at trial.

Plaintiff's Motion to Strike Late-Disclosed Non-Infringing Alternative (Docket No. 971) would be **DENIED**.

F. Motion to Exclude Infringement Opinions of Tanner

Defendants move to exclude the opinions of Dr. Michael Tanner.⁴¹ Docket No. 964. As Plaintiff explains, “Dr. Tanner’s renowned achievement is the development of the Tanner graph.” Docket No. 1094 at 3.

In his expert report, Tanner provides various opinions, including opinions related to: (1) “the general concept of Tanner graphs and how they are used to graphically represent sparse parity-check matrix codes”; (2) an explanation of how the “claimed Tanner graphs” in the asserted claims of the ’032 Patent relate to IRA encoders, and (3) “the relationship between the claimed Tanner graphs and the 802.11 IRA-LDPC codes.” Docket No. 1094 at 3.

Defendants appear to be challenging all of Tanner’s report,⁴² but they focus their arguments on concern with the third category of Tanner’s opinions. Docket No. 1182. Defendants argue that Tanner’s opinions about the “relationship” between the “*claimed* Tanner Graphs” and the 802.11 standards is a stand-in for an infringement analysis between the claims and Defendants’ accused products. *Id.* at 1-4. Defendants argue that such an analysis is not only improper in that it substitutes analysis of the standard for the analysis of the accused products, but is also likely to confuse or mislead the jury. *Id.* at 4-5. Plaintiff, for its part, argues that Tanner was not required to set forth opinions on the ultimate issue of infringement, but that his opinions comparing the claimed Tanner Graphs to the 802.11 standards are “relevant in educating the jury on Tanner graphs and how the 802.11 IRA-LDPC codes are in accordance with the claimed Tanner graphs.” Docket No. 1094 at 8-9.

Plaintiff does not adequately explain what admissible purpose is served by Tanner’s opinions comparing the claimed Tanner graphs to the codes contemplated by the 802.11 standards. The Court agrees with Defendants that in drawing this comparison, Tanner appears to be undertaking an analysis similar to an infringement analysis, but without the accused products. Doing so holds a high likelihood of confusing or misleading the jury. For instance, if the jury was persuaded by Tanner’s opinions comparing the Tanner graphs to the 802.11 standards, and another

⁴¹ See Defendants’ Motion to Exclude Infringement Opinions of Dr. Michael Tanner, Docket No. 964 (public), Docket No. 1007 (sealed); Opposition, Docket No. 1057 (public), Docket No. 1094 (sealed); Reply, Docket No. 1133 (public), Docket No. 1182 (sealed).

⁴² The title of Defendants’ motion suggests that it relates only to some of Tanner’s opinions. However, the conclusion of Defendants’ opening brief appears to request exclusion of Tanner’s entire expert report. See, e.g., Docket No. 1007 at 8.

expert simply opined that the accused products also satisfy the 802.11 standards, the jury might think it appropriate to find the accused products infringe the Tanner graph limitations of the asserted '032 Patent claims by simple, and improper, syllogism. Allowing the jury to connect the dots in such a way would be particularly unsupported because in providing his opinions, Tanner simply states he would “expect” encoders built according to the 802.11 standards to be “in accordance with” the claimed Tanner graphs. As Defendants observe, this open-ended opinion is speculative.

Because of the concerns with Tanner’s opinions on this topic, permitting him to provide opinions to the jury on such issues would be improper under *Daubert*. Therefore, the Court would **GRANT-IN-PART** and **DENY-IN-PART** Defendants’ Motion to Exclude Infringement Opinions of Dr. Michael Tanner. Docket No. 964. Paragraphs 2-3, 69-89 of the Tanner Report (*see* Docket No. 1094-1) would be **STRICKEN** to the extent they include opinions comparing the claimed Tanner graphs to the 802.11 standards. Defendants’ motion would be otherwise **DENIED** as it relates to other portions of Tanner’s testimony, as Defendants have not provided a sufficient basis for excluding it. Defendants do not dispute, for instance, that Tanner’s opinions regarding and explaining the Tanner graphs generally would likely assist the jury.

G. Summary Judgment Motion Regarding Inequitable Conduct

Plaintiff moves for summary judgment of no inequitable conduct.⁴³ Docket No. 942.

1. Unpled Inequitable Conduct Theories

Defendants’ operative Answer and Counterclaims specifically alleged that the patent applicant committed equitable conduct by failing to disclose Luby97, Luby98, and Richardson99 during prosecution of the asserted patents. *See* Docket No. 47 at Answer, Sixth Affirmative Defense; *id.* at Counterclaims, Count IX. Defendants have since identified some inequitable conduct theories that were not pled in their Answer and Counterclaims. Specifically, Defendants argue that they properly disclosed additional inequitable conduct theories relating to Frey and Pfister in a supplemental interrogatory response served on the last day of fact discovery. Docket No. 1104 at 9-10, 24. Defendants frame these new undisclosed prior art theories as relying on undisclosed “known or used” invalidity theories. *Id.*

⁴³ *See* Plaintiff’s Motion for Summary Judgment as to No Inequitable Conduct (Partial), Docket No. 942 (public), Docket No. 957 (sealed), *see also* Docket No. 994 (notice of errata); Opposition, Docket No. 1070 (public), Docket No. 1104 (sealed); Reply, Docket No. 1153 (public), Docket No. 1180 (sealed).

Inequitable conduct, however, is a claim for relief that is subject to a Rule 9(b) pleading standard. *Ferguson Beauregard/Logic Controls, Div. of Dover Resources, Inc. v. Mega Sys., LLC*, 350 F.3d 1327, 1344 (Fed. Cir. 2003) (“[I]nequitable conduct, while a broader concept than fraud, must be pled with particularity” under Rule 9(b).”). Unlike notice pleading, an inequitable conduct pleading must identify the “‘who, what, when, where and how’ of the alleged material misrepresentation, and offer ‘sufficient underlying facts from which a court may reasonably infer that a party acted with the requisite state of mind.’” *Parallax Grp. Int’l LLC v. Incstores LLC*, No. SACV 16-00929 AG (DFMx), 2017 WL 3453299, at *3 (C.D. Cal. June 30, 2017) (quoting *Exergen Corp. v. Wal-Mart Stores, Inc.*, 575 F.3d 1312, 1327 (Fed. Cir. 2009)).

The Court finds that in the particular circumstances of this case, it was not appropriate for Defendants to bypass their pleading obligations under Rule 9(b) by incorporating new inequitable conduct theories into an interrogatory response served on the fact discovery deadline. In these circumstances, there was no opportunity for the parties to conduct additional fact discovery relating to Defendants’ new theories.

Other district courts have similarly found inequitable conduct theories waived if not pled. Plaintiff cites *CSB-Sys. Int’l Inc. v. SAP Am., Inc.*, No. CIV.A. 10-2156, 2012 WL 1645582, at *6 (E.D. Pa. May 10, 2012), which itself similarly collected cases:

As set forth above, “inequitable conduct, while a broader concept than fraud, must be **pled** with particularity.” *Cent. Admixture Pharm. Servs, Inc. v. Adv. Cardiac Solutions, P.C.*, 482 F.3d 1347, 1356 (Fed. Cir. 2007) (emphasis added) (quoting *Ferguson Beauregard/Logic Controls, Inc. v. Mega Sys., LLC*, 350 F.3d 1327, 1344 (Fed. Cir. 2003)). Defendants’ pleadings must “give notice to the other party of the facts on which the defense is premised.” *Id.* at 1357. “Without such a pleading, a party may not raise, as an affirmative defense, inequitable conduct in a motion for summary judgment.” *Lab. Skin Care, Inc. v. Ltd. Brands, Inc.*, No. Civ.A.06-601, 2009 WL 2524577, at *2 (D. Del. Aug. 17, 2009). Repeatedly, courts have declined to allow a defendant to assert a new theory of inequitable conduct if the answer and counterclaims asserted a different theory of inequitable conduct than that relied upon in summary judgment proceedings. *See, e.g., id.* at *3-4 (declining to consider new theory of inequitable conduct where defendant’s answer “does not support the particular theory of inequitable conduct in Defendants’ Motion for Summary Judgment”); *ChemFree Corp. v. J. Walter, Inc.*, No. Civ.A.04-3711, 2008 WL 3884365, at *2 (N.D. Ga. June 10, 2008) (finding that “Defendants may not now change their theories of inequitable conduct at the final stages of this litigation in an effort to avoid summary judgment. Therefore, the Court will only consider Defendants’ original allegations of inequitable conduct as pleaded in their Amended

Answer and Counterclaims”); *Inline Connection Corp. v. AOL Time Warner, Inc.*, 237 F.R.D. 361, 367-68 (D. Del. 2006) (finding that, even assuming defendants did not have all necessary information to plead new theory of inequitable conduct when filing Second Amended Answer, the defendants had an obligation to file a Third Amended Answer to include new theory of inequitable conduct as soon as they had that information; even though previous Answer alleged inequitable conduct, their failure to amend their Answer to include new theory precluded their reliance on that theory); *Heraeus Electro-Note Co. v. Midwest Instrument Co., Inc.*, No. Civ.A.06-355, 2006 WL 3004877, at *6 (E.D. Pa. Oct.18, 2006) (finding that the defendant's best mode theory of inequitable conduct, as pled, failed to satisfy Rule 9(b) because none of the assertions contained in the defendant's response to the plaintiff's motion to dismiss were pled in the amended counterclaims).

Id. (emphasis in original).

EMC Corp. v. Storage Tech. Corp., 921 F. Supp. 1261, 1263-64 (D. Del. 1996) presents another example and collection of cases:

Only a handful of courts have addressed the issue of whether pleadings found to be inadequate under Rule 9(b) may be salvaged by future discovery. The Courts that have examined the issue have held that they cannot. *See, e.g., Nichols Motorcycle Supply, Inc. v. Dunlop Tire Corp.*, No. 93 C 5578, 1994 WL 113108, at *2-3 (N.D. Ill. March 30, 1994) (plaintiff cannot “indirectly amend its complaint to include its responses to interrogatories”); *see also id.*, at *3 (even if interrogatory recites all information, defendant is entitled to reassurance that response is entire basis for fraud claim); *National Union Fire Ins. Co. of Pittsburgh v. Continental Illinois Corp.*, 658 F.Supp. 775, 778 (N.D. Ill 1987) (not deciding issue but pointing out that “how discovery responses can cure threshold pleading defects is another unexplained mystery”). Other courts have held that where the allegations are pled with particularity, the parties may then rely upon interrogatories for specific details. *Union Mutual Life Ins. Co. v. Simon*, 22 F.R.D. 186, 187 (E.D. Pa. 1958) (where pleadings are particular, purpose of interrogatories is to elicit complete and exact details); *Scervini v. Miles Laboratories, Inc.*, 91 U.S.P.Q. 206, 207, 11 F.R.D. 542 (S.D.N.Y. 1951) (where pleadings fulfill particularity requirements, defendants can use interrogatories to obtain additional information). Thus, the Court concludes that EMC may not use its interrogatory responses to fulfill the particularity requirements of Rule 9(b). Accordingly, the Court concludes that Paragraph Seven of EMC’s Counterclaim and Answer to STK’s Third Counterclaim fails to meet the particularity requirement of Rule 9(b).

EMC Corp. v. Storage Tech. Corp., 921 F. Supp. 1261, 1263-64 (D. Del. 1996).

In the particular circumstances presented here, the Court agrees with these district courts and declines to permit Defendants to rely on an unpled inequitable conduct claim on the basis that

it was disclosed in written discovery. Defendants' Answer and Counterclaims govern in this case, and Defendants should have sought leave to amend their operative pleading consistent with Rule 9(b), to ensure that both the substance of Defendants' proposed new allegations and any procedural concerns relating to their timing could be considered. Moreover, the Court is not persuaded that Defendants, in their interrogatory responses, sufficiently disclosed an inequitable conduct theory relying on the underlying "known or used" invalidity theories they now raise. Although Defendants' supplemental interrogatory response generally referred to the presentations made of Pfister/Pfister Slides and Frey/Frey Slides at the Allerton Conference, the email and testimony Defendants now invoke to support such a theory, and the material information allegedly provided to support such a theory, were not sufficiently disclosed in Defendants' response. Defendants suggest that the timing of their supplemental interrogatory response was based on the late timing of two depositions during the fact discovery period. Defendants also blame Plaintiff for not raising an earlier challenge to the new theories disclosed in Defendants' supplemental response. These arguments are not persuasive. It is still Defendants' responsibility to ensure that the operative pleading governing their case aligns with the arguments and theories they seek to raise in this case. That is not a responsibility that changes based on the late timing of certain discovery or the opposing side's failure to raise the issue, particularly in the context of Rule 9(b) pleading obligations.

Because Defendants failed to take these steps, Defendants' unpled inequitable conduct theories are deemed waived and are not considered on their merits.

2. Pled Inequitable Conduct Theories

As noted, Defendants' operative Answer and Counterclaims allege inequitable conduct theories based on Plaintiff's failure to disclose Luby97, Luby98, and Richardson99 during prosecution of the asserted patents. *See* Docket No. 47.

Although Plaintiff does not dispute that these references were not disclosed to the Patent Office before the asserted patents issued, the Patent Office has had reason to consider at least two of them subsequently. Luby97 and Luby98 were identified as part of one or more obviousness combinations in challenges to some of the asserted claims during *inter partes* review proceedings. After considering the various obviousness combinations that included these references, the Patent Trial and Appeal Board found the challenged claims at issue not unpatentable over them. Plaintiff argues that on this basis, Defendants cannot show that Luby97, Luby98, or Richardson99 satisfy

the but-for materiality standard required to prove inequitable conduct.

Defendants argue that the exact prior art grounds they intend to present at trial were not considered by the PTAB. Defendants also emphasize the claims that were not subject to IPR: Claim 23 of the '710 Patent, Claims 3 and 17 of the '032 Patent, and Claim 9 of the '781 Patent. *See, e.g.* Docket No. 1104 at 23. Defendants argue that if the jury invalidates the claims at trial based on obviousness combinations that include these references, that would support a conclusion of but-for materiality for purposes of an inequitable conduct analysis.

“When an applicant fails to disclose prior art to the PTO, that prior art is but-for material if the PTO would not have allowed a claim had it been aware of the undisclosed prior art.” *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1291 (Fed. Cir. 2011). Importantly, “[i]n making this patentability determination, the court should apply the preponderance of the evidence standard and give claims their broadest reasonable construction.” *Id.* at 1291-92 (citing Manual of Patent Examining Procedure (“MPEP”) §§ 706, 2111 (8th ed. Rev.8, July 2010)). The Federal Circuit in *Therasense* went on to state, “even if a district court does not invalidate a claim based on a deliberately withheld reference, the reference may be material if it would have blocked patent issuance under the PTO’s different evidentiary standards.” *Id.* at 1292 (citing MPEP §§ 706 (preponderance of the evidence), 2111 (broadest reasonable construction)).

In their opposition, Defendants mix in their position regarding their pled inequitable conduct theories with arguments relating to their unpled inequitable conduct theories. Indeed, Defendants appear to place much more emphasis on their Frey/Pfister “known or used” invalidity theories than they do emphasizing Luby97, Luby98, and Richardson99.

Defendants’ Answer and Counterclaims allege that Luby97, Luby98, and Richardson99 were material to the patentability of the Asserted Patents because they “expressly teach the benefits of making regular codes irregular.” Docket No. 47 at ¶ 67. During IPR, Defendants identified Luby97 and Luby98 for the same purpose. Namely, Defendants argued that a person of ordinary skill in the art would modify another prior art reference, Divsalar, to incorporate “irregularity” based on these two references. *See* Docket No. 1180 at 4. The PTAB rejected this argument. Importantly, in reviewing these asserted claims during IPR, the PTAB applied the broadest reasonable interpretation standard to determine the scope of the claims. This is the same claim construction standard *Therasense* states should be applied in considering whether an undisclosed reference is but-for material. Moreover, Defendants relied in Luby97 and Luby98 in the IPR

proceedings for the same concept of making codes irregular that they argue supports theses references' but-for materiality. On this record, the Court finds as a matter of law that Luby97 and Luby98 were not but-for material to the patentability of the asserted claims that were reviewed against these references during IPR.

As to Richardson99, the Answer and Counterclaims allege that Richardson99 "provides a similar disclosure" to Luby98. Docket No. 47 ¶ 65; *see also* Docket No. 944-4 at 30-31 (Apple's Supplemental Interrogatory Response and Objections to Plaintiff's Common Interrogatory No. 7). The Answer and Counterclaims highlight excerpts of Richardson99's disclosure referring to the benefits of irregular low-density parity check codes. *Id.* In their opposition, Defendants similarly state that Richardson99 was "building on [the] work" of Luby97 and Luby98 in its discussion of irregular low-density parity check codes. Docket No. 1104 at 5. Defendants do not provide an independent basis in their pleading or opposition as to how Richardson99 is arguably but-for material in some way that differs from Luby97 and Luby98. The fact that the PTAB considered and rejected obviousness combinations where Luby97 and Luby98 were offered for the same concept that Defendants also would offer Richardson99 similarly supports the conclusion that Richardson99 is not but-for material to the patentability of the asserted claims.

For the four asserted claims that were not examined during IPR, Defendants also have not specifically explained how the application of Luby97, Luby98, or Richardson99 to those claims would have impacted their allowability in a way unique from the asserted claims that were the subject of IPR proceedings. This is particularly the case where Defendants' disclosed inequitable conduct theories against all of the asserted claims simply rely on the fact that Luby97, Luby98, and Richardson99 disclose irregular codes. Defendants did not identify other disclosure in Luby97, Luby98, or Richardson99 that is allegedly but-for material to the patentability of individual asserted claims, whether that claim was subject to IPR proceedings or not. In their opposition, Defendants highlight Claim 9 of the '781 Patent, which was not subject to IPR proceedings, as presenting factual issues because Claims 1 and 2 of the '781 Patent were found anticipated by Divsalar during IPR proceedings. Docket No. 1104 at 20. Defendants state, "[t]he additional limitations of claim 9 are every bit as invalid." *Id.* at 21. Defendants do not further explain their position in their opposition memorandum, and this conclusory assertion is insufficient to create a factual question regarding the but-for materiality of Luby97, Luby98, or Richardson99

with respect to that claim.⁴⁴

3. Conclusion

Plaintiff's Motion for Summary Judgment as to No Inequitable Conduct (Partial) (Docket No. 942) would be **GRANTED** for the reasons stated herein.

IV. Conclusion

For the reasons stated in this Order, the Court would rule as follows:

- Broadcom's Motion for Summary Judgment as to Non-Infringement as to Extraterritorial Sales (Docket No. 975) would be **GRANTED-IN-PART** and **DENIED-IN-PART** as stated herein.
- Defendants' Motion for Summary Judgment as to No Joint Infringement (Docket No. 959) would be **GRANTED**.
- The Court would **DENY-IN-PART**, **GRANT-IN-PART**, and **DEFER-IN-PART** Plaintiff's Motion to Exclude Improper Claim Construction Opinions of Dr. Stark and Dr. Blanksby (Docket No. 968) as stated herein.
- As stated herein, Plaintiff's Motion to Strike Certain Opinions of Defendants' Experts Brendan Frey and Wayne Stark (Docket No. 974) would be **GRANTED-IN-PART** and **DEFERRED-IN-PART** pending discussion at the hearing.
- Plaintiff's Motion to Strike Late-Disclosed Non-Infringing Alternative (Docket No. 971) would be **DENIED**.
- The Court would **GRANT-IN-PART** and **DENY-IN-PART** Defendants' Motion to Exclude Infringement Opinions of Dr. Michael Tanner (Docket No. 964) as stated herein.
- Plaintiff's Motion for Summary Judgment as to No Inequitable Conduct (Partial) (Docket No. 942) would be **GRANTED**.

⁴⁴ Claim 9 of the '781 Patent recites: "[t]he method of claim 6, wherein the information bits appear in a variable number of subsets." The Court had occasion to consider the scope of the "variable number of subsets" limitation when considering Defendants' challenge to the patentability of these claims under 35 U.S.C. § 101 and found that "the phrase 'variable number of subsets' creates a requirement in the relevant claims for irregular repetition of information bits." See Docket No. 849 at 14.